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ABSTRACT

The study's purpose was to investigate and identify the barriers to minority groups, which have resulted in under-representation in allied health professions postsecondary education programs. Two-day conferences were held in the seven Southeastern states of Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, and South Carolina. These conferences were divided into two discussion groups: (1) students, comprised of American Indians, Black Americans, and Spanish Americans, and (2) faculty members, high school counselors, administrators, and representatives of minority organizations involved in the education of minority students. A total of 160 participants attended the sessions. Priority rankings were made at the end of each discussion group. Sociodemographic characteristics were compiled for each State regarding population composition, economic activities, enrollment in educational institutions, health manpower, and allied health manpower in order to put the findings into proper perspective. This report reflects data obtained from the conference participants as well as administrators and faculty from allied health schools in the Southeast who were not able to attend the discussion groups. Given for each State are the State profile, educational institution profile, group discussions and findings, and the priority ranking. An overview of the study is included. (NQ)

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August 1975

FINAL REPORT

Barriers to Minorities In Allied Health Education
(A report on seven southeastern states)

Prepared by

Elisa P. Esler, Project Director

Supported by

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U.S. Department of Health, Education, and Welfare
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ABSTRACT

The purpose of this study was to investigate and identify the barriers to minority groups, which have resulted in underrepresentation in allied health professions postsecondary education programs.

Discussion groups were conducted in each of seven Southeastern States to discuss some of the problems perceived by Black Americans, Spanish Americans, and American Indians in entering and completing a postsecondary educational program in allied health. Suggestions for alternative solutions to the identified problems were also requested and ranked in priorities.

Among the different groups of individuals invited to participate were successful applicants, unsuccessful applicants, graduates, faculty, administrators, staff, high school counselors, vocational guidance counselors, and representatives of minority organizations involved in the education of minority students.

The barriers identified are hereby presented to the Bureau of Health Manpower so that alternatives can be developed to increase the percentage of minorities in allied health programs.

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EXECUTIVE SUMMARY

A. Purpose

The project reported here was designed to identify perceived barriers to minorities in allied health professions education throughout the Southeast.

B. Scope

Although there are many aspects to the needs of minorities in post-secondary programs, this report concentrates in the identification of problem areas as perceived through experiences of faculty-administrators and student groups. The three major areas of concern were problems related to admission, registration, and completion of a postsecondary allied health program.

C. Method

Conferences were held in seven Southeastern states. The conferences were divided into two discussion groups: Students, comprised of American Indians, Black Americans, and Spanish Americans; and faculty members, administrators, high school counselors, and representatives of minority organizations involved in the education of minority students. Summaries and priority rankings were made at the end of each discussion group. Sociodemographic characteristics were compiled for each State regarding population composition, economic activities, enrollment in educational institutions, health manpower, and allied health manpower in order to put the findings into proper perspective.

D. Product

The preparation of this report reflects information obtained from the necessarily limited participation of conference attendants as well as administrators and faculty from allied health schools in the Southeast who were not able to attend the discussion groups. The pool of information gathered from this group serves as basis for all conclusions and recommendations presented in this report.

I. INTRODUCTION

A. Purpose

During the last two decades the population in the United States has increasingly looked to the public sector, especially at the Federal level, to assure the availability of and accessibility to health care services.

Currently one of the major areas of legislative concern in the health field is the availability and distribution of health manpower since it is not only the health sector's largest cost item, but it is also the resource that requires the longest lead time to prepare and which can cause the greatest disruption in the health delivery system if not appropriately planned for.

The development of allied health professions has been further emphasized in recent years in order to extend physicians' capabilities to render care to a larger portion of the population. This need was expressed by Dr. E. L. Richardson [Ref. 1], who stated:

> "...we must urgently deal with the critically short supply of health manpower. We confront a shortage not only of doctors and nurses, but also of medical technologists, physical therapists, dental technicians, x-ray technicians--all of the medical professionals and paraprofessionals and allied health personnel who guard the health of our Nation. In all these disciplines we must produce more numbers, more efficiently, with upgraded skills in shorter time than ever before."

In order to successfully forecast manpower requirements and supply to deal with this shortage, the specific needs of individual regions, States, areas, and population groups must be taken into consideration to incorporate information particular to differing geographic locations and groups of individuals in a comparable and equitable manner.

For this reason, it has become important to have representatives of racial and ethnic groups in all the recognized health professions in adequate proportions to the existing population. Therefore, this project was funded by the Bureau of Health Manpower, Division of Allied Health Professions, to identify barriers that tend to prevent entry into and

completion of allied health profession postsecondary education by members of racial and ethnic minorities. Three specific population groups were designated for the purpose of this study: American Indians, Black Americans, and Spanish Americans. In this context Spanish Americans included persons of Spanish origin.

This project was initiated on July 1, 1973, as a 2-year study. The total study was distributed among four different contractors. One contractor was responsible for the northeastern area of the country, a second contractor was responsible for the southeastern area of the country, and a third contractor was responsible for the southwestern area of the country. A fourth contractor was responsible for coordinating administrative efforts among the three research contractors as well as organizing a followup national conference. The Research Triangle Institute (RTI) was responsible for the southeastern study area.

Initially, the methodology designed to identify barriers was based on developing a mail questionnaire, pretesting it, and submitting it to the Office of Management and Budget for final approval prior to entering the data-gathering phase of the study. However, approval for utilization of the questionnaire was denied, and a new methodology had to be developed. This new methodology is discussed in Section III.

B. Specific Objectives

Four specific objectives were delineated by the Bureau of Health Manpower as follows:

1) Devise appropriate methodologies for the identification of barriers which tend to prevent or limit entry into or completion of postsecondary allied health professions' educational programs by three minority groups: Black Americans, American Indians, and Spanish Americans.
2) Apply the developed methodologies to the identification of barriers affecting designated minority groups throughout the Southeastern U. S., which meant, under this contract, the States of Alabama, Florida, Georgia, Mississippi, Louisiana, North Carolina, and South Carolina.
3) Evaluate the relative importance of the barriers identified.
4) Summarize findings and recommend approaches which will facilitate the attainment of equal representation by minority group members in allied health professions' educational programs.

The final methodology designed to deal with the objectives of this study was to:

1) Develop and implement a series of approximately seven conferences representative of the geographic contract area for further identification and illumination of barriers to application, matriculation, and completion of postsecondary allied health professional education programs.
2) Determine barriers according to their importance to each minority group.

Barriers as defined in this study include those attitudes and practices that which act upon minority population groups to prevent, hinder, constrain, or discourage educational achievements in post-secondary allied health fields. Distinction shall be made between:

1) Barriers which are resolved or reduced through programs for the recruitment and training of allied health manpower.
2) Barriers that constitute basic social or economic problems, which are not susceptible to attack or solution by allied health manpower authorities independently of widespread national reforms through broad social, economic, or legislative action.

As an example of the foregoing, family poverty during early childhood may have widespread ramifications on later attitudes, abilities, and opportunities of affected individuals. The intent of this study was not to identify early poverty as a barrier and to recommend ways in which family poverty during childhood may be overcome, but to consider the resultant individual characteristics and problems as, in later life, they specifically affect:

1) The individual's motivation to seek an allied health career.
2) The individual's need and ability to find sources of financial assistance for training.
3) The need for the provision of specific additional training in preparation for matriculation in educational programs.
4) Other phenomena which feasibly can be addressed by programs geared specifically to increasing minority group participation in allied health professions education.

The following fields or occupations, submitted by the Bureau of Health Manpower, were included for the purposes of this study as "allied health professions":

Dental Assistant
Dental Hygienist
Dental Laboratory Technician
Dietitian
Dietary Technician
Inhalation Therapy Technician
Medical Laboratory Technician
Medical Record Librarian
(Medical Records Admin.)
Medical Record Technician
Medical Technologist
Occupational Therapist
Occupational Therapy Assistant
Ophthalmic Assistant
Optometric Technician
Optometric Technologist
Physical Therapist
Sanitarian
Sanitarian Technician
Radiologic Technologist
X-ray Technician

A few other categories were included when the occupational title and curriculum were felt to be very similar to the above listed occupations, such as respiratory therapy technician.

Section II of this report presents the background and history of the subject matter.

Section III describes the methodology and the data gathering processes. Sections IV through X present a sociodemographic profile, an educational institution profile for all participating institutions, a discussion of group perspectives observed during the conferences, and specific problems identified during the group discussions.

Section XI offers an overview of the study, and Section XII sets forth recommendations for future consideration.

II. BACKGROUND

A. General

One of the most significant changes brought about by the 1964 Civil Rights Act was that all of the funds spent through Federal programs were to be spent only in projects which had no discriminatory policies regarding race, religion, or sex. Forty-one different programs were listed in the regulations, and they covered many aspects of the general hospital and health field. Included were instruction, research, teaching, disposal of real property, traineeship grants, vocational rehabilitation, maternal and child health, and mental retardation. [Ref. 2] As a rule of thumb in cases where jurisdiction was in doubt, program directors were instructed to

> "assume that any program which was administered from the Department of Health, Education, and Welfare or through a State agency which receives its funds from the Department of Health, Education, and Welfare, was subject to the Civil Rights Act of 1964." [Ref. 2]

In addition to those programs in the above categories, numerous other Federal agencies and departments were affected by the regulations of this Act.

> "Included are the Small Business Administration which makes loans to hospitals and doctors, the General Services Administration which supplies surplus property to hospitals, the Housing and Home Finance Agency which has provided construction money for nurses' residences, and the National Science Foundation which provides research grants. In addition, the Bureau of Public Lands, the Labor Department, and the Veterans Administration have also issued regulations." [Ref. 2]

It can be clearly seen that nearly all areas of the health care delivery system were subject to changes in the area of civil rights. The mandate was passed down to these institutions and organizations to rectify practices that had been directed toward racial and cultural minorities in the past. With this policy clearly and explicitly formulated, it appeared that little remained except for a reasonable amount of time for implementation.

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During the first year after enactment of the Civil Rights Act, almost no change resulted for minorities in the health care delivery system. In response to this lack of adherance, the Department of Health, Education, and Welfare in early March of 1966 announced that hospitals should comply with Title VI requirements of the Civil Rights Act, but the announcement seemed to elicit little reaction. [Ref. 3] This lack of concern in the South extended to training, as well as service facilities.

To add complexity to the situation, civil rights organizations began to complain about the lack of affirmative action, and the slow process with which the provisions of the law were being instituted. [Ref. 4] With increasing pressure, HEW and other governmental agencies found it necessary to use more stringent measures to force compliance with the law. With continuing noncompliance, especially in the South, the message from the Federal Government became more drastic. Federal funds totaling more than $3 billion were being channeled into the South for various programs, and in those areas where noncompliance with the 1964 Civil Rights Act was evident, these funds were to be withheld. This holdup of funds could have very significantly affected the medical and allied health areas. With over $250 million clearly earmarked for medical and health care areas, the cutoff would have had widespread effects.

The emphasis upon increasing the number of Black and other minority physicians had broad implications for minorities in the allied health field.

> "For instance, an increase in the number of practicing Negro physicians and trained paramedical employees will have the effect both of providing more comprehensive medical services to the Negro consumer and of building a base of health knowledge in the Negro subculture." [Ref. 5]

In the 25 years prior to 1963, the number of medical schools enrolling Black students increased from 29 percent to 67 percent. The proportion of such schools was higher in the Northern and Western States (77 percent) than in the Southern and border States (52 percent). However, the increase in schools enrolling Blacks was dramatic in all sections of the country. The number of medical schools open to qualified Black applicants

was larger than the number of schools known to have actually enrolled such students. The explanation usually given for this divergence was that no academically qualified Blacks had applied for admission.

Between 1955-1956 and 1961-1962, there was a 10-percent increase in the total number of Black medical students. However, the number of these students attending predominantly White schools actually dropped, even though there was an increase in the number of such schools opened to and enrolling such students. Of the 48 predominantly White schools with Black students in 1955-1956, 30, or almost two-thirds, had fewer such students in their classes in 1961-1962 than they had 6 years earlier. Only 11 schools had an increase in Black enrollment. [Ref. 5]

Thus, up until 1963 minorities were actually losing ground previously gained in medical training programs in predominantly White schools, and though the passage of the 1964 Civil Rights Act was supposed to remedy this situation, little or no changes were made during the first 2 years. On the basis of routine reviews conducted since 1966, the Office of Equal Health Opportunity concluded that the changes were insignificant. Blacks were still effectively excluded from opportunities to enter nursing, and little improvement could be expected until affirmative action was taken to eliminate or to compensate for inferior academic preparation and lack of economic resources. [Ref. 5]

Thus, the removal of one legal barrier was replaced by a nonlegal barrier to produce the same results in the exclusion of minorities from the programs.

Even though many of the barriers of the past have been eliminated and some medical and allied health schools are now seeking minority applicants, it has been said that the past history of minorities in these professions does not motivate qualified minority group individuals to enter on a significant scale. [Ref. 5]

B. Allied Health Professions

Literature pertaining specifically to minorities in allied health professions is quite limited. However, the study of available literature pertinent to minority problems in medical professions and in health careers in general provides a framework for reviewing problems encountered by minorities in choosing allied health careers.

Identification and categorization of barriers to minorities in the field of allied health have generated a list which includes education deprivation, socioeconomic status, recruitment and admissions practices, financial aid, and institutional and faculty commitment.

In the area of education deprivation, McCain reported that many minority students who seek out health career training are inadequately prepared academically. Nonexistent or insufficient background in basic fundamental skills, weak test-taking skills, lack of proficient conceptual and verbal communication skills, and absence of intellectual enthusiasm are indicative of deficient academic preparation. [Ref. 6]

Additional findings relate the small number of minority individuals in the health field to poor counseling and disillusioning advice received from high school counselors, friends, and family members. [Refs. 7 and 8] Sain reports the results of a group meeting held on November 19, 1973, in Boston with five Black, second year dental hygiene students. All of the students had graduated from high school during the previous 3 to 10 years, and none of them had received counseling about any of the allied health professions. Only one of two students who worked as dental assistants had been encouraged by his dentist employer to further his education. Most of the students were discouraged from seeking a higher education. [Ref. 8]

Socioeconomic barriers often present additional difficulties for minorities since lack of financial support prevents minority students who are already disadvantaged from pursuing an education at the post-secondary level. However, problematic social adjustments cause frustration, even for those who can overcome the financial barrier. [Ref. 9]

More effective recruitment programs have been a major concern of institutions offering health care curricula. Henry and Sinkford describe an effective program for recruiting minorities as one which

> "identifies academic potential, supplies motivation, gives financial aid, describes opportunities available, builds a professional image, modifies mistaken attitudes or impressions, and gives a clear description of career goals." [Ref. 9]

In addition, Applewhite suggests that Federal, State, and local health personnel should assume the major role in achieving these goals, beginning with students at the junior high and high school level. [Ref. 10]

A demonstration and pilot study conducted by Fielstra strongly supports this argument. In this study, 100 high school students, with over 90-percent minority representation, were selected to participate in a 3-year study designed to expose them to a variety of opportunities available in allied health occupations. During Phase I of the project, students were given a task-oriented, course-integrated curriculum, along with visits to health care facilities. Phase II consisted of more organized work experience where students were allowed to choose their health career choice and were taught specific tasks relevant to that choice. Students were exposed to the clinical setting during Phase III by obtaining part-time jobs in participating health care facilities. A major result of the project was the finding that the dropout and transfer rate for students greatly diminished, the program helped increase the health manpower supply, and the application of practical experience helped increase educational relevance. Fielstra strongly recommends to schools across the U. S. the use of the UCLA Secondary Schools Demonstration and Pilot Project as a model for introducing students to allied health careers. [Ref. 11]

Institutional commitment has been considered as one of the determinants of successful completion of an educational program in terms of providing students with assistance and guidance psychologically as well as academically. [Ref. 12] However, the greater weight of this task falls on the faculty. If the faculty fails to meet this responsibility, the student may fail to complete the training program initiated, as a result of a feeling of faculty disinterest and lack of encouragement.

III. METHODOLOGY

This section presents the approach developed to address the following specific mandates of the study:

a) Develop and implement a series of approximately seven conferences representative of the geographic contract area for further identification and illumination of barriers to application, matriculation, and completion of postsecondary allied health professional education programs.
b) Determine the priority or relative importance given to barriers by each minority group.

A. Methods

Two-day conferences were planned for each of seven states: Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, and South Carolina. The conferences were divided into two discussion groups, one consisting of students from allied health programs and the second consisting of administrative, faculty, and staff personnel. The discussions were held on separate days for a period of 3 hours with two short breaks.

Whenever possible, potential participants were invited at a rate of one expected acceptance for every three invitations. A 30 percent response was expected because the conferences were to be held during final exam period. A total of 160 participants attended the sessions in the seven sites. A detailed response rate from participants by State is shown in Appendix A. As can be seen, a 30 percent response rate was obtained in most sites with the exception of Louisiana where the procedure had to be repeated because of poor attendance in the first student session.

Actual attendance ranged from 23 percent to 80 percent for each session and from 23 percent to 67 percent for the conferences. The explanation for such a wide range can be attributed to any number of reasons such as disinterest, lack of time due to previous task assignment, exams, weather, transportation, change of mind, inhibition, fear, or lack of perception of self as a minority.

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The procedure developed for conduct of the conferences is shown diagramatically in Figure 1. In order to establish a personal rapport which would be more conducive to obtaining the cooperation necessary from the schools, RTI arranged meetings with deans of allied health schools with the largest enrollment of students in the respective Southeastern states selected for the study. In addition, arrangements were made during this entire visit to set up the main data gathering operations in each State.

The entrée visit included the following activities: obtaining necessary clearances, discussing the project with relevant administrative personnel, arranging for appropriate physical facilities, interviewing key academic personnel, and finalizing schedules for the main data-gathering conference.

Upon returning from each visit to prearrange the conferences, RTI's staff finalized the lists of potential participants per State, including the faculty and administrative personnel. An information package was then mailed to each person, containing a letter of invitation to the conference with a brief explanation of the purpose of the study; a stamped, self-addressed response postcard; and a small pencil to check-mark the appropriate attendance box.

The principal tasks to be completed during the main data-gathering period were as follows:

1) Completion of the first session of the conference with the participation of successful and unsuccessful applicants and graduates from allied health programs, to include as many representatives of the three minority groups as possible.
2) Completion of the second session of the conference with representatives from the faculty, administrators and staff, high school counselors, and representatives of minority organizations involved in the education of minority students.
3) Compensation of participants for meals and transportation costs at $10.00 per person.
4) Acquisition of names and addresses of participants in each group who would like to attend a subsequent National Conference.
5) Summarization of notes taken during the sessions by the recorder and observer.

Thank you letters were sent to all participants after completion of the field work.

B. Study Populations

The potential participants of each group discussion were drawn from various sources. Some were invited from educational institutions, from private practices, and from community organizations. Successful and unsuccessful applicants as well as graduates of allied health programs were invited to the student group discussion. Faculty, administrators, and staff such as minority-oriented counselors, coordinators, and others responsible for minority affairs were invited to the administrative group discussions. In addition, the administrative conferences included other individuals such as high school counselors, vocational guidance counselors, and representatives of minority organizations who are involved in educating minority students. Appendix B presents a description of some of the allied health professions of concern in this study as well as number of years of education and training beyond high school necessary for completing allied health programs.

C. Discussion Teams

A corps of RTI discussion teams was composed, and each team was assigned to a State conference. The same team conducted both group discussions. Each team consisted of a discussion leader, an observer, and a monitor. However, in some instances a fourth staff person attended the conference when large numbers of participants were expected. In the interest of giving every person an opportunity to actively participate as much as possible, it was considered highly desirable to limit the size of the group to a maximum of ten individuals. Therefore, whenever more than ten response cards were received, a fourth staff member attended to assist in administrative and content recordkeeping.

The project director was present at every one of these conferences and led the majority of the group discussions. Only one other person shared this responsibility, which helped to control personal variances in conducting the discussions. Each session was taped, with the permission of all participants, to assist the project staff in the preparation of the final report.

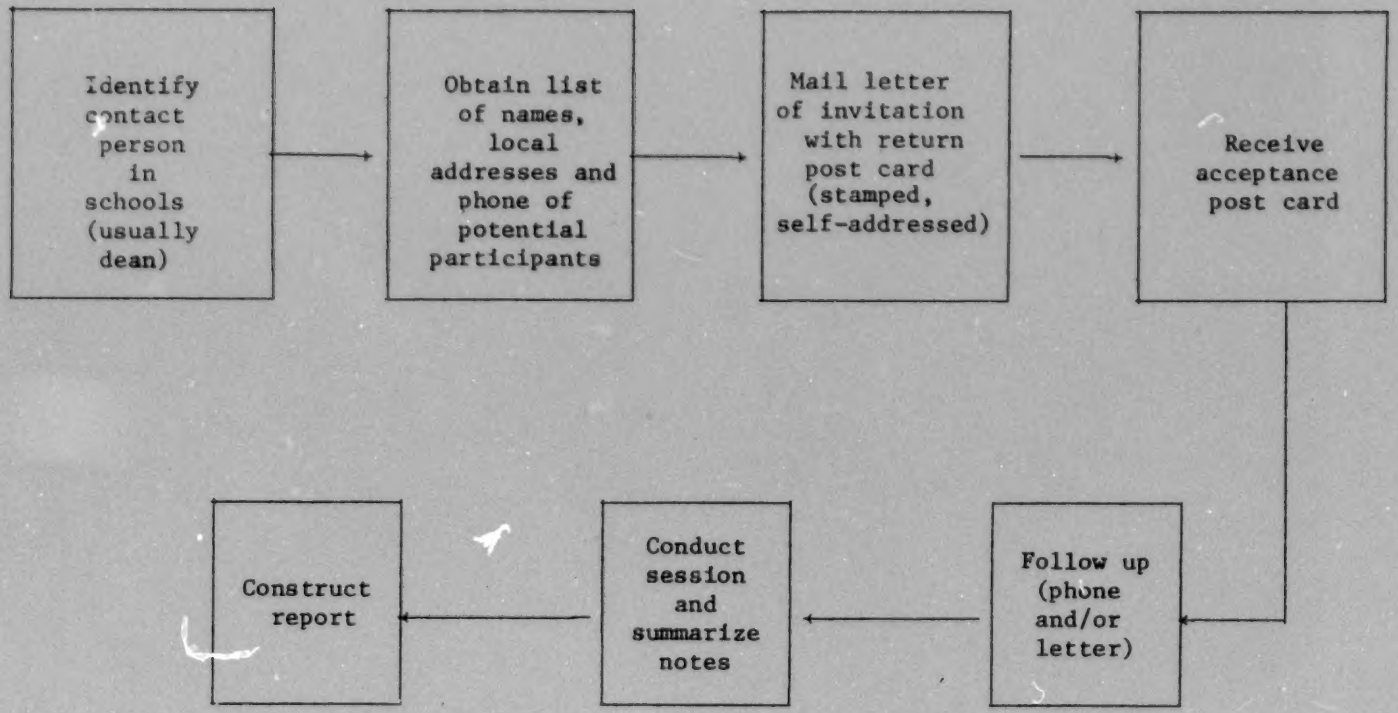
Identify contact person in schools (usually dean)
Obtain list of names, local addresses and phone of potential participants
Mail letter of invitation with return post card (stamped, self-addressed)
Receive acceptance post card
Follow up (phone and/or letter)
Conduct session and summarize notes
Construct report

Fig. 1. Procedure for Conduct of Conferences.

D. Conference Topics

The following topics were discussed at each conference:

1) Extent of precollege counseling in choosing a health career.
2) Length of program in which students were presently enrolled and length of time yet to be completed.
3) Present enrollment status.
4) Academic success in the program.
5) Present employment status.
6) Extent of student-instructor contact.
7) Source(s) of financial aid.
8) Origin of knowledge about allied health careers, i.e., parents, relatives, classmates, friends, or others.
9) Educational requirements for admission to the program.
10) Degree of difficulty in completing application process.
11) Factors influencing a person's decision to enter a career in allied health.
12) Factors influencing the selection of training institutions.
13) Factors affecting decision to remain in school such as financial or child care problems.
14) Overall view of advantages and disadvantages of the program regarding cultural problems or academic assistance.

E. Priority Ranking

In order to develop a listing of the barriers or problem areas identified by each group, participants were asked to collaborate in developing such a list at the end of each session. After a summary by members of the discussion team of the salient points discussed, each person was asked to assist in dictating the appropriate wording for each subject that the group wanted to have identified as a problem. Consensus was more or less difficult to obtain in each instance, depending upon the composition of the group, but there were no major disruptions during this phase.

After the list was compiled each individual was asked to assign a relative weight to each item on the list, based on perceived importance for action. Weight was to be assigned on an interval scale of 1 to 10. A score of 1 was high, and a score of 10 was low. This was not an ordinal scale but a relative value scale in relationship to the perceived importance of a specific problem. Therefore, it was conceivable to have each item valued at 1 or at any other number in the scale.

The object of the scaling system was to establish a group priority based on the perceptions of problems related to entering, matriculating into, and completing an allied health education program as identified by members of the same discussion group. The priority ranking components in subsequent chapters dealing with the States present the lists that were prepared in each case, as well as the composite of priority scores by faculty or student groups. The item considered to be of most importance or urgency on each list will have the lowest score.

Two different types of priorities can be noticed through the method used for ranking. First, participants were asked to list all important issues after the discussion team members summarized the various elements discussed during the session. Second, participants were asked to assign a value on priority to each item in the list.

As will be observed then, the order in which the priority items were dictated and the composite ranking of priorities are different. In the majority of the final rankings the item of most importance was not that which the group had elected to list first. In fact, there were only three cases in which there was a clear match: the Alabama faculty list, the Florida faculty list, and the Mississippi student list. In all other cases the scored priority ranking differs considerably from the listed priority ranking.

The following sections, IV through X, present information relevant to barriers affecting minority groups in each State studied in the Southeastern United States. First, a sociodemographic profile of the State is presented, followed by an educational institution profile and a discussion of the group perspectives encountered during discussions with administrators and with minority students. For convenience as well as continuity in assessing each State, each section is concluded by a discussion of findings.

The project staff encountered great difficulty in gathering current data on health and allied health personnel for the State profile. Therefore, most of the information was collected from the U.S. Bureau of the Census, United States Census Population: 1970. Detailed Characteristics, 6th count. Other sources of information were:

American Hospital Association Guide to the Health Care Field, 1974 Edition. American Hospital Association, Chicago, Illinois.

Distribution of Physicians in the U.S. American Medical Association, Chicago, Illinois, December 1973.

Health Care in the South: A Statistical Profile. Southern Regional Council, Inc., Atlanta, Georgia, June 1974.

Health Resources Statistics, Health Manpower and Health Facilities, 1971. U.S. DHEW Public Health Service, National Center for Health Statistics, Rockville, Maryland, February 1972.

"Southern Exposure," Vol. 11, No. 23. U.S.A. CSA Printing and Binding, Inc., Fall 1974.

U.S. Bureau of Census, United States Census of Population: 1970 Detailed Characteristics. PC(1) - D2, U. S. Government Printing Office, October 1972.

U.S. Bureau of Census, United States Census of Population: 1970 General Population Characteristics. U.S. Government Printing Office, October 1970.

U.S. Department of Commerce, Social and Economic Statistics Administration, Detailed Characteristics. Bureau of the Census, October 1970.

U.S. Department of Health, Education, and Welfare, Office for Civil Rights. Racial and Ethnic Enrollment Data from Institutions of Higher Education, Publication No. OCR-72-8. U.S. Government Printing Office, Fall 1972.

IV. ALABAMA

A. State Profile

Alabama lies in the Cotton Belt of the Old South bordered by Tennessee to the north, Florida to the south, Georgia to the east, and Mississippi to the west. The State capital is Montgomery.

1. Population

Total:	3,444,165	100.0 %
Urban:	2,011,941	58.4 %
Rural:	1,432,224	41.6 %
Black:	923,713	26.4 %
Spanish:	13,313	0.4 %
Indian:	2,153	0.1 %
Area:	51,609 square miles	
Density:	67 persons per square mile	

2. Employment

The total employment figure for the State is 1,193,315, which constitutes 35 percent of the total population. This figure includes all persons 16 years of age and older. Black Americans make up 21.3 percent of the working labor force, and Spanish Americans 0.3 percent. Although there are over 2,000 American Indians in Alabama, there were no figures available as to their employment status. Per capita personal income was $3,724 in 1973.

3. Main Economic Activities

Introduction of new and diversified industries has given the State a balanced economy. Natural wealth includes coal (which underlies about 7,000 square miles in the northern Appalachian region), iron, bauxite, and timber. With two-thirds of the State's land area in timber, Alabama has important and expanding pulp, paper, and paperband production. It is a leader in production of southern pine plywood and pulpwood. Industrial growth in 1973 amounted to over $1.6 million worth of investments in 1,005 new or expanded plants. The new plants provided 42,998 persons with new jobs.

The entire Tennessee River region continues to develop, and the population in the 16 Alabama TVA counties is projected to rise from its present population of 839,386 persons to 1,337,900 persons

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by the year 2000. Finally, the atomic waste disposal industry has been welcomed as well as the Southern Company's proposed construction of nuclear power plants.

Agriculture remains a vital part of the State's economy. Cotton has long been the principal crop in Alabama although at the present time corn, soybeans, pecans, and peanuts are widely cultivated. Other important crops are potatoes, watermelons, tobacco, and peaches.

The increased scale and mechanization of row farming, and chicken and egg production now contributes over 39 percent of the State's agricultural cash receipts, which is well above the 17.9 percent return for calves and the 7 percent return for cotton.

4. Education

There are 56 institutions of higher education in Alabama, with an enrollment of 172,370 students. Nineteen of these institutions offer 94 allied health programs. In addition, 26 hospitals offer various hospital-based allied health programs. The following breakdown shows postsecondary enrollment by minority group, as listed by the DHEW Racial and Ethnic Enrollment Data from Institutions of Higher Education, Fall 1972:

Caucasian and Others:	67,120	77.8 %
Black Americans:	18,501	21.5
Spanish Americans:	351	0.4
American Indians:	213	0.3
Total:	86,185	100.0 %

The remaining student population is distributed as follows:

Total:	834,679
Primary:	590,713
Secondary:	243,966

5. Health Manpower

There are 40,044 persons employed in the health field, which amounts to 4 percent of the employed population. Tables 1 and 2 on the following pages present a distribution of selected health and allied health professions in Alabama by minority group.

Table 1

PERSONS EMPLOYED IN SELECTED HEALTH PROFESSIONS
BY RACIAL AND ETHNIC CATEGORY
ALABAMA

Profession	Total	Black	%	Caucasian and Other	%	Spanish	%
Medicine (M.D. & D.O.)	2,769	107	3.8	2,597	93.8	65	2.4
Dentistry	919	47	5.1	872	94.9	--	--
Optometry	121	--	--	112	92.6	9	7.4
Pharmacy	1,877	38	2.0	1,839	98.0	--	--
Podiatry	25	11	44.0	7	28.0	6	28.0
Veterinary Medicine	241	9	3.8	227	94.2	5	2.0
Nursing (RN)	10,588	1,650	15.6	8,905	84.1	33	0.3

U.S. Bureau of Census. United States Census of Population: 1970. Detailed Characteristics. PC(1) - D2, U.S. Government Printing Office, October 1972.

Table 2

RACE AND ETHNIC COMPOSITIONS BY SEX OF PERSONS EMPLOYED IN SELECTED HEALTH OCCUPATIONS
ALABAMA

Occupation	Total	Caucasian and Other				Black				Spanish			
		Male	Female	Sub-Total	%	Male	Female	Sub-Total	%	Male	Female	Sub-Total	%
Dietitians	782	51	487	538	68.8	26	218	244	31.2	--	--	--	--
Therapists	750	270	321	591	78.8	74	78	152	20.2	7	--	7	1.0
Technologists and Technicians:													
Clinical Laboratory	1,635	484	965	1,449	88.7	70	93	163	9.9	--	23	23	1.4
Dental Hygienist	512	--	488	488	95.3	5	19	24	4.7	--	--	--	--
Health Records	144	--	139	139	96.5	--	5	5	3.5	--	--	--	--
Radiologic	708	287	357	644	81.0	14	50	64	9.0	--	--	--	--
Therapy Assistants	18	11	3	14	77.8	4	--	4	22.2	--	--	--	--
Health Administrators	1,122	666	388	1,054	94.0	35	33	68	6.0	--	--	--	--
Dental Laboratory Technicians	288	220	53	273	94.8	--	15	15	5.2	--	--	--	--
Opticians, Lens, Grinders, and Polishers	291	226	60	286	98.2	5	--	5	1.8	--	--	--	--
Dental Assistants	1,145	4	1,020	1,024	89.4	10	111	121	10.6	--	--	--	--
Health Aides	1,602	140	813	953	59.5	71	563	634	39.6	--	15	15	0.9
Lay Midwives	15	--	--	--	--	--	15	15	100.0	--	--	--	--
Nursing Aides, Orderlies, and Attendants	11,438	1,271	5,224	6,495	56.8	1,619	3,296	4,915	43.0	--	28	28	0.2
Practical Nurses	4,710	47	3,324	3,371	71.6	31	1,302	1,333	28.3	--	6	6	0.1

U.S. Bureau of the Census. United States Census of Population: 1970. Detailed Characteristics. PC(1) - D2, U. S. Government Printing Office, October 1972.

6. Health Facilities

Five of Alabama's 67 counties have no hospital facilities. There are 126 short-term general hospitals in the State having a combined capacity of 443 beds for each 100,000 population. Of these hospitals, 117 have emergency room components and 23 have outpatient departments. Outpatient utilization rates per 100,000 persons have been computed as 27,663. There are 191 extended care or nursing home facilities in Alabama.

B. Educational Institution Profile

Two educational institutions were represented in the conference conducted in Birmingham: the University of Alabama and Jefferson State Junior College. An urban institution, the University of Alabama in Birmingham (UAB) is located in the center of an area containing nearly three-fourths of a million persons. More than one-fifth of the State's population lives within 25 miles of the university campus. Enrollment in all University units is approximately 9,500 students, including 2,900 in the health science schools. Within the next decade, it is anticipated that the annual enrollment will increase to 15,000 students. The UAB campus, located on the periphery of downtown Birmingham, is being expanded through urban renewal to a 60-square-block or 241-acre area.

One of three major campuses of the UAB system, the Birmingham center consists of a medical complex, the university college, and the graduate school. Because of the location of the medical center, the university has a heavy responsibility to help provide academic programs oriented to the health sciences. The School of Community and Allied Health Resources (SCAHR) has more accredited allied medical education programs than any other school in the United States. Of the four major divisions of SCAHR, two are primarily concerned with the training of allied health personnel--the Division of Allied Health Sciences and the Regional Technical Institute for Health Occupations. Total enrollment in the Allied Health Division is 252, including 36 black students.*

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* Enrollment figures were extracted from the American Society of Allied Health Professions. "Minority Enrollments in ERAH Educational Programs," 1974.

The Birmingham Veteran's Administration Hospital provides extensive support to these allied health education programs. Altogether, there are 1,400 patient beds in the immediate area, and almost every medical specialty is represented.

Bachelor of Science programs in the Allied Health Division include Medical Records Administration, Medical Technology, Occupational Therapy, Physical Therapy, and Radiological Technology. A Bachelor of Science degree may also be earned in any one of three Physician's Assistant programs. Other programs in this division are postbaccalaureate internships in Dietetics and Medical Technology. A new M.S. program in Clinical Nutrition is being developed.

The Regional Technical Institute was established at the university to conduct the subbaccalaureate programs in the allied health sciences. At present, radiological technicians, medical technicians, and cytotechnologists are trained through this Division.

Jefferson State Junior College is located in a growing suburban residential area of northeast Birmingham. One of 12 junior colleges established in the State of Alabama in 1963, enrollment has risen from 1,000 to nearly 7,000 students in 1974. The Division of Health Related Technology programs is directly concerned with health delivery systems and requires a clinical affiliation with one of various community agencies. Associate degrees may be earned in medical laboratory technology and radiological or x-ray technology. There are 146 students in the division, 23 of whom are Black.*

In addition, eight allied health programs have been designed in conjunction with the Regional Technical Institute at the University of Alabama in Birmingham. For these programs, students take 1 year of approved courses in general education at Jefferson State and then transfer to Research Triangle Institute (RTI) for a year of clinical education. Currently offered are curricula for: dietetic, medical record, medical laboratory, and optometric technicians; occupational and physical therapy assistants; respiratory therapy; and radiologic technology.

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* Enrollment figures were extracted from the American Society of Allied Health Professions. "Minority Enrollments in ERAH Educational Programs," 1974.

C. Group Discussions and Findings

1. Student Session

The meeting was attended by seven students: five from Jefferson State Junior College and two from UAB. One of the UAB students, however, was enrolled in a Masters degree program in hospital administration. He participated in the discussion although his program and field were outside the scope of this project.

The participants arrived in small groups over a 10-minute period. There was a moment of awkward silence while the first arrivals and staff waited for the remainder of the group to arrive. The participants sat with those with whom they arrived. The seating arrangement was somewhat spread out around the parlor room in which the meeting was held. Following the first break, two participants sitting at the end of the room had to be coaxed into moving closer to join the rest of the group. In general, they were a group of shy, inexperienced individuals who had probably not participated in similar activities before, did not know what to expect, and were extremely wary although not really uncomfortable.

The group had to be drawn into speaking at first. Although this apparent shyness continued throughout the session for some, over half the group was participating freely by the end of the session. In general, there was a problem with underparticipation rather than with overparticipation or domination of the group by one or two members.

The participants related almost exclusively to the discussion leader. There was little interaction between members. Rarely did one member question another. For the most part, they responded to questions from the leader and directed their answers at the leader. The information provided was highly relevant to the issues but at no time did the participants ever coalesce into a true group.

The members were fairly clear in expressing their ideas, although they were not able to pick up on each other's comments. It is possible that their reticence was largely due to a lack of understanding about the purpose of the meeting; however, this problem abated during the session as they grew to understand more about the project.

The group raised a number of issues, which appeared to be universal problems throughout the group. These included four central issues:

a. Counseling and Information

The group indicated that they chose their programs and made career goals on the basis of personal contacts. They were not encouraged to enter these programs while in high school, nor did they receive counseling to direct them to take the proper courses in preparation for post-high school programs. They recommended expanded career and academic counseling beginning in junior high school. They felt that counselors in Black high schools are not knowledgeable about the health professions and still tend to avoid counseling students toward traditionally White professions.

In addition, they recommended that more public information be made available, particularly about the less publicized professions such as physical therapy, medical technology, radiation technology, and others. They noted that more information currently available to the public involves physicians and nurses.

b. Academic Requirements

The group expressed the feeling that students coming out of Black high schools are not as well prepared as students from White high schools. They complained that identical grades (which serve as the basis for decisions) do not represent equivalent levels of accomplishment, the Black schools being inferior.

As a result of poor counseling, they do not take necessary math and science courses. Remediation courses are composed mostly of Blacks. Based on their feeling that Black schools offer inferior preparation, this would seem likely but some of the participants who took remedial courses came from predominantly White schools. There was a general feeling that

Black students are assigned to remediation and forced to continue with remedial classes on the basis of race rather than need. They described cases in which White students who had completed the same remedial work as Black students were released from classes while the Black students were not.

c. Financial Aid

All the participants described some financial difficulties. Some were being assisted by their parents, but others had families to support. Most have to take a part-time job.

There is little information on financial aid available, either in high school or college. Most aid that is available is in the form of loans. Maximum income levels for grant eligibility tend to be so low that students require more assistance than the grant to reach an income level where training becomes a viable alternative. They suggested that solutions to this problem would be to increase the income eligibility ceilings for grants and to provide more public funds for grants.

d. Student-Faculty Relations

The group felt that communication between the Black students and White faculty is extremely poor. Some of this poor communication may be a function of age differences, but the group felt it to be largely a matter of race. They also indicated problems with Black faculty who they believed to be protective of their faculty positions.

Poor communication is also involved in other problems noted above. A recommended solution is the establishment of a grievance committee.

2. Faculty-Administrator Session

The meeting was held in a small hotel meeting room with seats placed around a large conference table. Upon arrival, the group from one of the universities sat along one side of the table facing those representatives from another institution who sat along the

opposite side. Although this did not appear to have an effect on group interaction as had been initially feared, there was never a feeling of real group interaction. Participants consisted of 11 faculty and administrators and four discussion team members from RTI.

All discussions of minority problems involved specifically Black problems. Participation was reasonably distributed among all members of the group. Everyone had an opportunity to make a comment. Some spoke less than others, but no one individual dominated the entire group. There was, however, one disruptive member in the group.

A formal atmosphere prevailed throughout the meeting, although one member tended to loosen things up when taking the lead in the discussion. This was probably a function of the formal conference table, the fact that they tended to line up on opposite sides of the table, and the presence of top level administration from the respective schools.

The group identified the following four major areas of concern:

a. Counseling and Recruitment

There was a general feeling that many individuals are becoming interested in entering allied health programs. Pre-program counseling should not only encourage persons to enter health professions, but should also screen out those who are not suited to work in this environment; for instance, those who cannot stand the sight of blood, giving injections, or the sight of physical injury. Recruitment efforts should strive to give a realistic picture of the various allied health jobs. A specific problem involves vocational rehabilitation counselors who appear to be pushing disabled veterans toward health careers training with little concern for their actual qualifications.

Counselors fail to give students full information about aspects of the particular program in which they wish to enroll. For instance, a person training to become a medical laboratory technician may expect to fill the role of a medical

technologist, but this is not so. The faculty indicated that they have encountered a number of such cases. Further, there is no direct way of progression from one to the other without starting over in a medical technology program from the beginning.

These are problems affecting both White and minority students. An issue specifically relevant to Black students is the lack of awareness of White counselors about opportunities at Black colleges for Black students. There is a Black Awareness Program in Alabama designed to motivate junior and senior high school students to take the appropriate courses for and enroll in allied health programs. High school counselors are often unaware of this program and, also, tend to be unaware of allied health professions in general, for all students.

b. Educational Preparation

There are two ways in which the educational preparation of students entering allied health programs is inadequate. First, students fail to take the appropriate math and science courses in high school. This is a function of both poor or no counseling and the lack of information available to students at an early age. Students do not take appropriate college preparatory courses. Rather they tend to take the easiest courses they can get without thinking about future needs.

Second, students have not developed adequate basic math and reading skills. Teachers of remedial math and English courses were present and indicated that these problems are associated less with race than with "cultural deprivation," meaning that poor Whites, as well as Blacks, suffer from these problems. In English, high schools seem to stress vocabulary rather than grammar. Often students have good vocabularies, which tends to seem sophisticated, but cannot use words in the proper context. In general, math grades are not good indicators of the need for remedial math courses. English grades do tend to be good indicators. However, placement tests are used, and it is the perception of the faculty that the same percentages of Blacks and Whites fail.

Once through the first quarter of a program, the dropout rate is quite low. It was felt that race is not associated with success. Rather, the associated variable tends to be the school at which high school or junior college work was taken.

c. Prestige

The faculty felt that the students' preprogram expectations were not maintained once they began training. They felt that students were disillusioned about the level of professional esteem of their field, the lack of upward mobility, and the salaries. This appears to be a function of poor information received prior to enrollment. However, there is no explanation offered as to why these misimpressions are not corrected during the application process.

d. Financial Aid

Precollege and college counselors do not adequately inform students about sources of financial aid. When aid is requested, the forms and red tape are often discouraging to students. Poor parents often refuse to complete financial aid information, and students are skeptical about the true use of the information.

Since most students have to work regardless of financial aid, their incomes are often above the cutoff ceiling for aid to attend low-cost schools. If they attend high-cost schools, they may be eligible for funds but never enough to cover the high cost of school expenses.

The faculty felt that transportation did not present a serious financial problem.

D. Priority Rankings

Most of the items listed in this conference by both groups were the same or referred to similar problems, as shown in Table 3. From the areas identified as problems by both groups, financial aid was designated as most important overall by the students, followed by better academic preparation in predominantly Black schools, and minority grievance committee for minority problems. The faculty selected precollege academic preparation and counseling as most important, followed by

academic reinforcement, and better prepared and informed counseling. Different problems listed by the students in order of priority were evaluation of standardized placement tests, financial assistance for transportation, minority grievance committee for minority problems, and apathy from instructors. The faculty instead listed more exposure to job setting, lack of upward mobility, simplification of financial aid forms, and child care programs.

Table 3

PRIORITY SCORES ASSIGNED BY STUDENTS AND FACULTY
ALABAMA

Problem Areas	Priority Scores
STUDENT	
Lack of counseling starting from junior high school	6.7
Poor academic preparation in predominantly black schools	2.7
Evaluation of standardized placement tests, specifically English and mathematics	6.4
Public information about all Allied Health Professions	5.6
Information about sources of financial aid	2.3
Income level for financial aid too low	2.3
Elimination of qualifying date for BEOG	4.1
Financial assistance for transportation	5.1
Lack of grievance committee for minority problems	3.6
Apathy from instructors	7.1
FACULTY	
Precollege academic preparation and counseling	1.0
Public information about allied health professions	3.2
Exposure to job setting	3.0
Lack of upward mobility	4.0
Need to review requirements for financial aid	3.6
Simplify financial aid forms	3.8
Financial aid through grants and loans	3.2
Academic reinforcement - IPI - tutorial, etc.	2.1
Child care programs	4.2
Lack of better informed counseling	2.4

V. FLORIDA

A. State Profile

The Florida peninsula expands southward 500 miles between the Atlantic Ocean and the Gulf of Mexico. Cuba is 90 miles from its southern tip, and the State has 30,000 lakes. Okeechobee, covering 700 square miles, is the fourth largest natural lake inside the United States. The highest elevation in the State is 345 feet in the northwestern part. The State capital is Tallahassee.

1. Population

Total:	6,709,433	100.0 %
Urban:	5,458,137	80.5 %
Rural:	1,321,305	19.5 %
Black:	1,049,578	15.5 %
Spanish:	451,382	6.6 %
Indian:	Not available	Not available
Area:	58,560 square miles	
Density:	114 persons per square mile	

2. Employment

There are 2,426,260 persons 16 years and older employed in the State, which amounts to 36 percent of the total population. Black Americans comprise 15 percent of the working labor force, and Spanish Americans 7.6 percent. There were no available figures as to the employment status of the Indian population. Per capita personal income was $4,647 in 1973.

3. Main Economic Activities

Tourism is a major industry; about 23,150,000 visitors spend some $3.6 billion annually in Florida. It offers a wide variety of tourist attractions in addition to temperate climate, resorts, and water sports. Florida's many miles of beaches and other resort areas offer all-year attractions to millions of vacationers.

Major tourist objectives are metropolitan. Miami has the Nation's greatest concentration of luxury hotels at Miami Beach and Palm Beach; St. Augustine was founded in 1565 and is the oldest city in the U. S.; Daytona Beach and Fort Lauderdale are on the East Coast; Sarasota, Tampa, Key West, and St. Petersburg are on the West Coast; and Walt Disney World, an entertainment and vacation

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development, is located near Orlando. There are 14 deepwater ports, which handle domestic and foreign trade valued at $1.8 billion a year.

Manufacturing provides payrolls totaling $2.28 billion. Leading industries in terms of value added by manufacturing are food processing, chemicals, electrical equipment, transportation equipment, metal products, and paper products.

The State has a tremendous agricultural output, producing 80 percent of the Nation's citrus fruits and ranking second only to California in vegetables. It also produces avocados, watermelons, limes, tangerines, sugarcane, peanuts, cotton, tobacco, strawberries, and honey. Farm receipts added up to $1.87 billion in 1973.

Florida's tourists and retirees sharply contrast with the nearly 100,000 farmworkers who enter the State each year to harvest sugar (Jamaican labor), citrus (mostly Black Americans), and vegetables (Caucasian and Spanish Americans). Poverty conditions among these migrants also contrast with the wealth of Florida's agriculture. The State is ranked number one in farm income and number two in vegetable sales in the Nation and number three in the South for total agricultural sales; yet Florida has the lowest proportion of farmers of all the States in the U. S.

The panhandle is also the base for Florida's tobacco, broilers, and hogs, just as the central region is citrus grove country, and the southern portion is prime land for vegetable truck farming, sugar plantations, and cattleraising.

4. Education

Florida has 66 higher-education institutions, which have a total enrollment of 189,732 students. Thirty-seven of these institutions offer 137 allied health programs. In addition, 42 hospitals offer various hospital-based allied health programs.

The following breakdown shows postsecondary enrollment by minority group, as listed by the DHEW Racial and Ethnic Enrollment Data from Institutions of Higher Education, Fall 1972:

Caucasian and Others:	168,072	88.6 %
Black Americans:	16,797	8.9 %
Spanish Americans:	4,577	2.4 %
American Indians:	286	0.1 %
Total:	139,732	100.0 %

The remaining student population is distributed as follows:

Total:	1,466,741
Primary:	1,029,887
Secondary:	436,827

5. Health Manpower

There are 88,102 persons employed in the health field, which is 4 percent of the employed population. The following tables (4 and 5) present a distribution of selected and allied health professsions in Florida by minority group.

6. Health Facilities

Nine of Florida's 67 counties have no hospital facilities. There are 188 short-term general hospitals in the State having a combined capacity of 473 beds for each 100,000 population. Of these hospitals, 179 have emergency room components and 51 have outpatient departments. Outpatient utilization rates per 100,000 persons have been computed as 82,750. There are 292 extended care or nursing home facilities in Florida.

B. Educational Institution Profile

Two educational institutions were represented in the conference conducted in Miami: Miami Dade Community College and Florida International Institute. Miami-Dade Community College is a public, 2-year college with a multicampus format. A center for allied health studies is under development adjacent to the hospital complex in Miami. The allied health program is designed to offer a balance of technical and general education courses, although special courses and programs are also offered in response to community needs. However, enrollment is limited because of the limited clinical facilities and laboratory space and the delicate balance of job opportunities in the health field.

Courses in dental hygiene, mental health technology, and optometric technical sciences are held at the North Campus Center. Specialized courses for medical laboratory technology, medical record technology,

Table 4

PERSONS EMPLOYED IN SELECTED HEALTH PROFESSION
BY RACIAL AND ETHNIC CATEGORY
FLORIDA

Profession	Total	Black	%	Caucasian & Other	%	Spanish	%
Medicine (M.A. & D.O.)	8,718	105	1.2	7,343	84.2	1,270	14.6
Dentistry	2,740	83	3.0	2,538	92.6	119	4.4
Optometry	513	4	0.8	473	92.2	36	7.0
Pharmacy	3,236	83	2.5	2,945	91.0	208	6.5
Podiatry	172	5	3.0	167	97.0	--	--
Veterinary Medicine	676	6	0.9	659	97.5	11	1.6
Nursing (R.N.)	25,501	1,584	6.2	23,044	90.3	873	3.5

U.S. Bureau of Census, United States Census of Population: 1970 Detailed Characteristics. PC(1) - D2, U.S. Government Printing Office, October, 1972.

Table 5

RACE AND ETHNIC COMPOSITIONS BY SEX OF PERSONS EMPLOYED IN SELECTED HEALTH OCCUPATIONS
FLORIDA

Occupation	Total	Caucasian and Other				Black				Spanish			
		Male	Female	Sub-Total	%	Male	Female	Sub-Total	%	Male	Female	Sub-Total	%
Dietitians	1,269	65	778	843	66.5	30	291	321	25.3	14	91	105	8.2
Therapists	2,150	756	1,084	1,840	85.6	77	87	164	7.7	106	40	146	6.8
Technologists and Technicians:													
Clinical Laboratory	4,402	1,012	2,423	3,435	78.0	106	162	268	6.0	286	413	699	16.0
Dental Hygienist	641	59	561	610	95.1	--	5	5	0.9	--	26	26	4.0
Health Records	305	30	266	296	97.0	--	9	9	3.0	--	--	--	--
Radiologic	1,662	356	1,016	1,372	82.5	43	40	83	5.0	93	114	207	12.5
Therapy Assistants	169	59	79	138	81.7	--	12	12	7.1	--	19	19	11.2
Health Administrators	2,089	1,242	694	1,936	92.6	42	51	93	4.5	42	18	60	2.9
Dental Laboratory Technicians	1,050	632	223	855	81.5	20	19	39	3.7	126	30	156	14.8
Opticians, Lens, Grinders, and Polishers	829	581	106	687	82.9	6	12	18	2.1	103	21	124	15.0
Dental Assistants	2,854	70	2,465	2,535	88.9	--	125	125	4.3	__	194	194	6.8
Health Aides	4,360	489	2,372	2,861	65.6	109	1,005	1,114	25.5	75	310	385	8.9
Lay Midwives	23	--	12	12	52.1	11	--	11	47.9	--	--	--	--
Nursing Aides, Orderlies, and Attendants	21,592	1,873	9,904	11,777	54.6	1,198	7,851	9,049	41.9	223	543	766	3.5
Practical Nurses	7,489	180	5,488	5,668	75.7	66	1,487	1,553	20.7	5	263	268	3.6

U.S. Bureau of the Census. United States Census of Population: 1970. Detailed Characteristics. PC(1) - D2, U.S. Government Printing Office, October 1972.

physical therapy technology, respiratory therapy technology, and the 1-year operating room technology programs are offered at the Mount Sinai Center. One hundred seventy-three allied health students are enrolled in these programs; 18 are Black Americans and 34 are Spanish Americans. There were no figures available for American Indians.

Florida International University is a 2-year upper-level institution that accepts graduates of junior colleges as well as transfers from other universities. On the Tamiami Trail, 10 miles west of downtown Miami, this innovative university opened its doors in 1972 and now has an enrollment of over 10,000 students. Florida International stresses environmental concerns and encourages students to engage in related community endeavors during their education. The "university without walls" setting makes theory tested in practice available before graduation.

Both the Health and Social Sciences Divisions are combined into one department because the university considers the disciplines inseparable. Students enrolled in allied health programs pursue a curriculum of broad general education courses, core courses common to the helping professions, specialized professional courses, and clinical training. Majors leading to a bachelor's degree are available in dietetics and nutrition, medical technology, occupational therapy, and physical therapy. Eighteen students of Spanish origin and 3 Black Americans are included in the total allied health enrollment of 56 students.

C. Group Discussions and Findings

1. Student Session

The conference was attended by students from the Miami-Dade Community College and Florida International University. The session was held in a hotel suite. Most of the participants arrived early and those who did not know each other started to get acquainted.

There were ten participants, two Blacks, seven Spanish, and one Black foreign student. The group initially had two participants who were dominant yet quite articulate. As the discussion progressed all participants began to express themselves and worked very well as a group. They expressed their ideas clearly, and there was no communication problem. Participants were quite willing to identify

and focus on problem areas or on topics introduced for discussion. They seemed very sincere and concerned about the issues that were discussed, and volunteered information and suggestions. The atmosphere was most relaxed and informal. However, problems identified by the group were not barriers specifically related to minorities but problems which may be typical of all students regardless of ethnic or racial background.

The group identified three major issues:

a. Counseling and Recruitment

Students felt they were not properly counseled and that high school counselors did not clearly explain the process of applying to college. Most of the counselors in discussing possible careers never mentioned allied health. Most of those who were enrolled in allied health programs had decided to do so before finishing high school and had learned about the program through a friend or relative.

Some felt that admissions were biased not because of racial or ethnic background, but because some students had connections with school officials and did not have to go through a detailed screening process.

Most of the students agreed that two of the major discriminatory factors were among the different sexes and ages. It was generally felt that because middle-age candidates have limited productive years, they are not as likely to be accepted as persons seeking admissions directly out of high school.

b. Financial Aid

Most students are advised not to work if admitted into an allied health program. Nevertheless, Black students felt they were not financially able to enroll unless they had a steady source of income.

Also, students felt that the financial and application forms were too detailed and personal. They felt that financial aid is given on a first-come, first-served basis although many students receiving financial aid actually do not need it.

They agreed that consideration for financial aid should be given on the basis of individual need. Also, more grants should be given to persons who are heads of households.

c. Barriers Affecting Program Completion

Some students expressed concern over barriers that might affect their course completion. They complained of uniforms having to be bought from a particular store, which were too expensive and of very poor quality. Students who were in clinical training traveled approximately 36 miles a day round trip. Because of this, transportation is a problem since classes are scheduled in various and distant places throughout the city. Automobiles are a necessity because city bus services are too slow and the school does not provide a bus service. Most students with automobiles average $8.00 to $10.00 a week for gasoline in school-related activities.

Even though students are advised not to work, some find it necessary to do so because of the various transportation, uniform, and equipment expenses not covered by existing grant support. Students felt that information regarding all expenses related to completion of the program should be given to applicants before they enter a program.

2. Faculty-Administrative Session

The meeting was attended by faculty and program administrators from the Miami-Dade Community College. The participants arrived late in 10- to 15-minute intervals, and no one seemed to have had difficulty in locating the hotel suite. The room seemed comfortable as well as informal.

There were seven participants present, five of whom were members of the faculty or program coordinators. Each member of the group knew the others. In addition to the RTI staff, the Project Monitor from the Bureau of Health Resources Development was present. The conversation at first was dominated by two individuals, but later other participants began to take part in the discussion.

There was very little group interaction, and the discussion was somewhat minimized by the lack of enthusiasm of the participants. The group was very defensive about the operation of their specific departments or programs.

The atmosphere was somewhat strained due to a certain degree of tension among group members. It appeared that the group was reluctant to focus on problems that the discussion leader had addressed to them.

Although the group's defensiveness prohibited establishment of clearly defined problem areas or issues of concern, the following comments were given in response to specific topics that were outlined by the discussion leader.

a. Counseling and Recruitment

The group explained that plans are being made to explore different methods of admission. Miami-Dade uses the open-door policy, but open enrollment is not applicable in the allied health division because of limited facilities. Instructors indicated that during the initial interview a student is dealt with according to his level of prospective. The student is informed of all particulars, and time requirement is stressed in terms of studying.

It was felt that minority problems stem from the secondary education programs where students have their future career decisions shaped by counselors and teachers to whom they are exposed. In addition, there are essentially no role models for minorities in the field of allied health. The group suggested then that contact should be initiated with students at an earlier stage and in their own environment. Instructors would like to find the potential minority allied health student early enough so that the student can lose the concept of self-defeat and can take the appropriate coursework in preparation for a particular allied health program.

b. Financial Aid

Most of the members of the group felt that financial aid was not a problem. Ninety percent of the students receive some form of financial aid, the greatest portion of which is foundation money and does not have to be repaid. Financial aid is available and applications are processed through a centralized computer bureau. However, an analysis is required of parents as well as of the individual's financial background. Plans were being made to have student information sessions to inform students of financial aid availability.

D. Priority Ranking

The priority ratings associated with specific problem areas identified by the students and faculty are presented in Table 6. There were very few areas of agreement between the two groups in this State. In general, the students seemed to be more concerned with retention criteria, such as amount and distribution of financial aid, special education programs, information flow, and job placement. The faculty, however, seemed to be more concerned with selection and admission criteria.

The three most important problem areas selected by the student group were better-informed counselors, financial assistance for tuition and books, and employment opportunities. The faculty selected lack of information about allied health at elementary and middle schools, development of basic skills, and lack of professional role models as its top priority.

Table 6

PRIORITY SCORES ASSIGNED BY STUDENTS AND FACULTY
FLORIDA

Problem Areas	Priority Scores
STUDENT	
Financial assistance for transportation	2.4
Financial assistance for uniforms and instruments	3.8
Financial assistance for tuition and books	1.8
Financial assistance for personal expenses related to school activities	2.5
Lack of remuneration for work done during clinical assignments	4.1
Charge for applications for financial assistance	4.9
Lack of better informed counseling	1.1
Earlier counseling in high school, i.e., tenth grade	3.0
Recruiting programs	4.0
Updated information including salary expectations	3.1
Employment opportunities	1.8
Public information about allied health professions	2.1
Language assistance prior to entering program	4.8
Age discrimination	4.3
Information about estimated future expenses	2.1
FACULTY	
Lack of information about allied health at elementary and middle school	2.0
Poor development of basic skills (math, science, communication)	2.2
Lack of professional role models	2.2
Validity of admission testing devices	7.6
Lack of information concerning financial aid	8.2
Early identification of potential students	5.6
Lack of financial aid for costs other than tuition and books	4.2

VI. GEORGIA

A. State Profile

Georgia is the largest in area of the States east of the Mississippi. Georgia is bordered by Florida to the south, Alabama to the west, South Carolina to the east, and Tennessee and North Carolina to the north. The State capital is Atlanta.

1. Population

Total:	4,589,575	100.0 %
Urban:	2,768,074	80.5 %
Rural:	1,821,501	19.5 %
Black:	1,190,779	25.9 %
Spanish:	29,824	0.6 %
Indian:	2,236	0.1 %
Area:	51,609 square miles	
Density:	89 persons per square mile	

2. Employment

There are 1,746,769 persons 16 years and older employed in the State of Georgia. This makes up 38.1 percent of the total State population. Black Americans constitute 22.5 percent of the working labor force and Spanish Americans 0.5 percent. There were no available figures as to the employment status of American Indians in this State. Per capita personal income was $4,243 in 1973.

3. Major Economic Activities

Georgia is by far the Nation's largest producer of peanuts, harvesting 1.3 million tons in 1973, more than twice that of any other State. It is among the leading growers of pecans, peaches, and rye, and it ranks second among other States in the number of chickens produced (approximately 41 million in 1973). In addition, it has a large hog production. Farm receipts totaled over $1.9 billion in 1973, more than half of which was from livestock, livestock products, and rye.

Georgia is rich in a number of natural resources and in its growing, diversified industries. Value added by manufacture totals over $6.5 billion per year. Manufacturing production has increased many times over since World War II, but the textile industry remains the largest both in terms of number of workers and value added by

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manufacture. Also of great importance are paper products, transportation equipment, apparel, food products, and chemicals. Savannah and Brunswick are the main ports. The State is served by six major railroads and ten airlines, and it has also become a sports center in the Southeast with professional baseball, basketball, football, and hockey teams.

4. Education

There are 62 institutions of higher education in the State of Georgia with a total enrollment of 107,060 students. Thirty-three of these institutions offer 108 allied health programs. The following breakdown shows postsecondary enrollment by minority group, as listed by the DHEW Racial and Ethnic Enrollment Data from Institutions of Higher Education, Fall 1972:

Caucasian and Others:	86,868	81.1 %
Black Americans:	19,669	18.4 %
Spanish Americans:	294	0.3 %
American Indians:	229	0.2 %
Total:	107,060	100.0 %

The remaining student population is distributed as follows:

Primary:	9,580
Secondary:	3,205
Total:	12,785

5. Health Manpower

There are a total of 51,855 persons employed in the health field, which is approximately 3 percent of the work force. Tables 7 and 8 present a distribution of selected health and allied health professions in Georgia by minority group.

6. Health Facilities

Forty-four of Georgia's 159 counties have no hospital facilities. There are 164 short-term general hospitals in the State having a combined capacity of 458 beds for each 100,000 population. Of these hospitals 148 have emergency room components and 51 have outpatient departments. Outpatient utilization rates per 100,000 persons have been computed as 97,140. There are 352 extended care or nursing home facilities in Georgia.

Table 7

PERSONS EMPLOYED IN SELECTED HEALTH PROFESSION
BY RACIAL AND ETHNIC CATEGORY
GEORGIA

Profession	Total	Black	%	Caucasian & Other	%	Spanish	%
Medicine (M.A. & D.O.)	4,605	136	3.0	4,287	93.0	182	4.0
Dentistry	1,465	35	2.4	1,410	96.2	20	1.4
Optometry	261	--	--	261	100.0	--	--
Pharmacy	2,295	70	3.0	2,225	97.0	--	--
Podiatry	49	--	--	49	100.0	--	--
Veterinary Medicine	539	10	1.9	529	98.1	--	--
Nursing (R.N.)	14,673	2,157	14.7	12,380	84.4	136	0.9

U.S. Bureau of Census, United States Census of Population: 1970 Detailed Characteristics. PC(1) - D2, U.S. Government Printing Office, October, 1972.

Table 8

RACE AND ETHNIC COMPOSITIONS BY SEX OF PERSONS EMPLOYED IN SELECTED HEALTH OCCUPATIONS
GEORGIA

Occupation	Total	Caucasian and Other				Black				Spanish			
		Male	Female	Sub-Total	%	Male	Female	Sub-Total	%	Male	Female	Sub-Total	%
Dietitians	1,131	32	800	832	73.5	20	273	293	26.0	--	6	6	0.5
Therapists	1,038	392	542	934	90.0	42	54	96	9.2	8	--	8	0.8
Technologists and Technicians:													
Clinical Laboratory	2,371	487	1,537	2,024	85.3	105	200	305	12.9	13	29	42	1.8
Dental Hygienist	471	18	453	471	100.0	--	--	--	--	--	--	--	--
Health Records	242	19	199	218	90.0	--	10	10	4.2	--	14	14	5.8
Radiologic	931	265	577	842	90.4	14	68	82	8.9	--	7	7	0.7
Therapy Assistants	60	13	42	55	91.7	--	5	5	8.3	--	--	--	--
Health Administrators	1,462	848	552	1,400	95.7	32	25	57	4.0	--	5	5	0.3
Dental Laboratory Technicians	451	347	74	421	93.3	16	9	25	5.6	5	--	5	1.1
Opticians, Lens, Grinders, and Polishers	334	211	111	332	96.4	12	--	12	3.6	--	--	--	--
Dental Assistants	1,369	--	1,223	1,223	89.3	--	141	141	10.3	--	5	5	0.4
Health Aides	2,028	233	972	1,205	59.4	96	727	823	40.6	--	--	--	--
Lay Midwives	10	--	--	--	--	--	10	10	100.0	--	--	--	--
Nursing Aides, Orderlies, and Attendants	13,487	1,373	5,319	6,692	49.6	1,674	5,066	6,740	50.0	15	40	55	0.4
Practical Nurses	4,452	119	2,615	2,734	61.5	82	1,626	1,708	38.3	--	10	10	0.2

U.S. Bureau of the Census. United States Census of Population: 1970. Detailed Characteristics. PC(1) - D2, U.S. Government Printing Office, October 1972.

B. Educational Institution Profile

There were two educational institutions represented in the conference conducted in Atlanta: Emory University and Georgia State University.

Emory University was founded by the Methodist Church and still retains this affiliation. The School of Medicine at Emory is one of the foremost private facilities for medical education in the Southeast. Metropolitan Atlanta's 1.5 million people supply a large patient population and numerous supportive agencies, which enhance health education. The medical complex surrounding the university provides an excellent environment for education and research.

In 1968 the Division of Allied Health Professions at Emory was created to fill the need for training members of the health team. Today, two types of educational and/or training programs are sponsored by the division: students may be enrolled in a program leading to a degree or a certificate of training. Disciplines within the school include Master of Medical Science curriculums in anesthesia technology, immunohematology, physical therapy, and radiological science. A Bachelor of Medical Science degree can be obtained in health records administration, physician's associate programs, and radiological science. In addition, associate studies are conducted in the physicians' associate field and radiological technology. Courses leading to a certificate are the dietetic internship, radiological technology, and respiratory therapy programs.

Emory University Hospital is the clinical training facility for most allied health disciplines. Total enrollment in the division is 86 students with a minority representation of six Black Americans.

Located in urban Atlanta, Georgia State University offers a varied curriculum. The original two schools of the University--the College of Arts and Sciences and Business Administration--were joined by Schools of Education, Urban Life, and General Studies. In response to Georgia's need for additional health manpower, the School of Allied Health Sciences was established. Today, Georgia State is the second largest institution of higher learning in Georgia.

Georgia State's School of Allied Health has 147 students, of which 23 are Black Americans and 1 is Indian. Programs include both an Associate of Science and Bachelor's degree in respiratory therapy, a Bachelor of

Science in community health nutrition, physical therapy, and medical technology. A Master's program in medical technology has been developed as well.

C. Group Discussion and Findings

1. Student Session

The meeting was held in a parlor room and attended by students from Georgia State University and Emory University. There was one male student. The members of the group interacted well with each other. They tended to be in their early twenties and seemed fairly experienced in this type of situation. They responded immediately to the leader's first questions and took it from that point by themselves. At one point, very early in the meeting, one member became dominant and assumed a leading role. Eventually the leader took control back from this member. A number of other students also participated to a great extent, making this one of the most enthusiastic groups.

The members were clear in expressing their ideas and picked up extremely well on each other's comments, seeking to expose more sophisticated concepts than were immediately apparent, and they questioned each other extensively.

Many of the students knew each other from school and seemed to feel at ease with each other. This feeling also existed between students from different schools. The members of the group interacted very well with each other. The atmosphere was bright and alive at the beginning and tended to remain so throughout the meeting.

The group identified a number of issues, which can be grouped into four major categories:

a. Motivation

Students learned about allied health professions in a variety of ways and received their motivation to enroll from a variety of sources. One student had a relative in the allied health field. Another learned about it through a high school program which brought students to hospitals to expose them to health careers. One student in learning disabilities chose it as a result of experiences as a school teacher. Another had

good high school science grades and was encouraged by one of the science teachers. This person had attended an all-white high school and was encouraged to attend Georgia State University after being warned against the University of Georgia because of race. There is a general feeling that instructors at the University of Georgia deal with Black students differently than with Whites. Another student was exposed to physical therapy while a candy striper. Students are interested in entering allied health professions because they appear to be good professional positions and are a good starting point to higher levels in the health professions.

Counseling was discussed very briefly, during which time students expressed the feeling that unless a student has a B+ average or better in high school, their counselors are not interested in giving them advice. In small towns, it was felt, counseling is useless regardless of grade average when the student is Black.

b. Educational Requirements

With the exception of one student who took an English remediation course, there were no problems encountered by any group members in meeting the educational entrance requirements. These allied health programs are applied following the sophomore year, that is, after two years of general college, either in the same university or in a junior college. Therefore, any remedial work needed would be taken on admission to the general college rather than to the allied health programs.

c. Financial Aid

The students believed that money for financial aid is available but that they are not informed about it. Students must take the initiative in seeking funds since programs do not make financial aid information available in catalogs. Financial help tends to come from the financial aid office rather than from the program.

There are too many internal administrative barriers to receiving scholarships. There is a very strict delineation of

acceptable programs for financial aid. Upon enrollment, it seems as if loans are offered rather than grants. If grants are available, students are not informed about them until after it is apparent that they will perform well in the program. However, the cost of the program and the scarcity of grants are definite deterrants to application.

Black students have no role models in allied health positions from individuals who have gone through allied health programs before them; therefore, there is no one to offer guidance in dealing with the system.

In any event, transportation costs, program expenses, and living expenses are far greater than the amount of even relatively large stipends. Other ways in which students meet their expenses are through loans, an employed spouse, self-employment, social security, or the support of parents.

There is a basic assumption that allied health students will earn a sufficient salary to pay off their loans. The feeling is that if they can get jobs, the salaries will be sufficient. However, in some cases, this is not true. The typical starting salaries for radiological technicians and physical therapists were cited as being too small to provide sufficient funds to pay off loans. This was an extremely important point.

d. Interpersonal Relations

Students expressed the feeling that it is very important to have other minority students in their programs for emotional support. White students tend to avoid Blacks, as do White faculty. In some programs there appears to be a fair amount of prejudice on the part of White staff toward Black trainees. In other programs, this was not the case at all. The feeling was expressed that both minority students and minority faculty have to constantly prove themselves, while Whites do not.

2. Faculty Session

The meeting was attended by faculty from Emory University, Georgia State University, and Clark College, a Black college with an

allied health program that is associated with Emory's. The meeting was held in a hotel parlor room. The group had considerable difficulty getting started and remained fairly tight throughout the entire session. They did interact well at times but not consistently. The atmosphere was somewhat strained at first due to periodic silences, but it improved as the meeting progressed. The group identified four major issue categories. These are:

a. Counseling and Recruitment

The group identified two basic motivations for minorities to enter allied health programs. Students are usually motivated by some personal work experience or other type of personal work exposure. There is also the recognition that the average B.A. degree is not enough. Allied health degrees offer the possibility of a concrete career field with a technical skill that makes the holder marketable. More specifically, people with B.S. degrees in sciences are looking to go into allied health fields in order to get a job.

A major problem is that few minority students apply for admission to allied health programs. Most allied health programs are traditionally viewed as White, female, professional. There are essentially no role models for minorities in many allied health professions. This is partly due to the fact that many minority students are the first in their family to attend college.

Admissions offices have outreach recruiting programs using counselors. They do not, however, use minority persons already in the profession, who would appear as role models for the students.

Allied health professions have recently taken on new acceptability and respectability. While this is helpful in recruting students for allied health programs, it was noted that this tends to hold back some students with the potential for higher professional achievements (e.g., they may be counseled to enter allied health programs rather than medical school).

Although allied health programs are becoming more acceptable, there is still a lack of desire on the part of minority students to enroll in them. As noted, this is due to the absence of role models and the traditional view of allied health professionals as roles for Whites and women. Although there is a general lack of information available to students about allied health professsions, the problem is compounded by the fact that the information that is available is content information, which will not have a serious effect on students' attitudes, coming as it does too late and too little in high school years. It is important to do something to influence the student's attitude about allied health professions from a variety of sources over a long period of time beginning at an early age.

The application procedure, in general, is a barrier to all students, not just to minorities. In fact, because schools are seeking minority students, they go to extra lengths to insure that application forms and materials are complete and that the student is encouraged to carry out the admissions procedure through to the end.

b. Educational Preparation

The lack of applications noted as a counseling problem above is also related to educational preparation. High school students are often told that it is too hard to get through allied health programs. Often they do not take the appropriate academic courses in high school which usually involves the absence of science courses. For students who apply and need to make up science prerequisites, there are two important questions. First, can they afford the extra year to make up prerequisite courses? This is often a problem, particularly in the more expensive private schools. Secondly, is the payoff, in this case a position in the allied health professions, worth the extra time and money.

Because more and better-prepared persons are applying to allied health programs, standards for admission are going up. Therefore, many students who could have gotten in 4 to 5

years ago do not get in now, and people who start with a socioeconomic and educational disadvantage (such as minorities often do) are falling farther behind. The more schools recruit, the more applicants there are, the harder it is to get in. Many schools require standardized tests for admission, such as the SAT and GRE. These are written tests for a limited segment of the population, which test outside the experience of most minority students.

c. Financial Aid

The price tag of many allied health programs scares people away regardless of the availability of financial aid. Therefore, the greatest impact of the financial barrier is simply not enrolling rather than not completing the program. Once in a program, schools can usually find some form of aid. Loans and grants are available. Few students seem to take jobs, but that varies by program. Although loans and grants are available, securing them is often complicated by the complexity of the organizational red tape involved. Schools often look at parent's income even when the student is independent. Parents of minority students are often hesitant to complete a financial form, which may expose income to nonschool organizations such as the Internal Revenue Service. In essence, the confidentiality of the information is in question.

Travel is an important financial problem. Around Atlanta, there are bus fares and gasoline expenses incurred when a student moves between his school and the site of his clinical rotations, which are often in downtown hospitals. Some programs require an extended internship or clinical year, which might be taken anywhere in the country. This involves the expense of room and board while an apartment must also, in many cases, be maintained in Atlanta because students return to school for a quarter following the internship.

d. Attrition

Attrition is fairly high in some undergraduate programs. It tends to be less in graduate programs. In one physician's

associate program, the overall attrition rate is 20 percent. For minority students it is 50 percent, due almost exclusively to academic failure, particularly in the science courses. Another major reason for attrition is that there is often a misunderstanding of the job role. Once students begin dealing with sick people, many find that they do not really want to do it. The attitude of instructors has a great influence on the completion of the program.

The attitude of the student is influenced by the fact that he or she will be the only minority student in the program. Minority students often prefer not to train in a White environment because of either covert or unintentional prejudice from other students and faculty.

D. Priority Ranking

The priority ratings associated with specific problem areas identified by the students and faculty are presented in Table 9. In this instance, the faculty list of problems identified far exceeded that of the students. Nevertheless, there were only three areas of agreement between the two groups, which are precollege counseling, increased financial assistance, and increased minority enrollment. Students concentrated on financial problems and performance, whereas faculty and administrators were more concerned with previous academic preparation and the development of additional institutional programs. The top priority for the students was lack of precollege allied health counseling, acceptance of more minorities, and better measures of aptitude. The faculty selected improved preparation prior to entering an allied health school in the following order: communication and writing skills, problem solving, and science.

Table 9

PRIORITY SCORES ASSIGNED BY STUDENTS AND FACULTY
GEORGIA

Problem Areas	Priority Scores
STUDENT	
Lack of pre-college counseling	2.4
Need for more grant and stipend funds	2.9
Information about available funds	2.8
Assistance with the heavy expenses incurred in clinical training (travel, uniforms, etc.)	3.3
More equitable measures of aptitude than the traditional tests (i.e., SAT)	2.7
Problems associated with being one, or one of few, minorities in the program	3.2
Peer pressure	6.0
Faculty pressure	5.1
Acceptance of more minorities into allied health programs	2.4
FACULTY	
Need for more grant and stipend funds	2.8
Earlier health career information	2.7
Continuation of health career information throughout the educational process	2.6
Participation from other sources including government, health care institutions, professional organizations, etc.	2.8
Academic preparation prior to entry into allied health schools with emphasis on:	2.6
Science	2.4
Communication and writing skills	1.2
Problem solving	1.6
Active, personal recruitment of minority students to produce role models for future recruiting efforts	3.9
Program responsiveness to the needs of individual students	3.2
Funds to develop program flexibility to meet the needs of present and potential students	4.8
Funds for training of health educators	5.6
Utilization of mass media to provide a positive attitude toward allied health professions	4.0

VII. LOUISIANA

A. State Profile

Located on the Gulf of Mexico, Louisiana is bounded to the north by Arkansas, to the east by the Mississippi River and to the west by Texas. Baton Rouge is the State capital.

1. Population

Total:	3,641,306	100.0 %
Urban:	2,406,150	66.9 %
Rural:	1,235,156	34.0 %
Black:	1,088,734	29.9 %
Spanish:	69,678	1.9 %
Indian:	4,992	0.1 %
Area:	48,523 square miles	
Density:	75 persons per square mile	

2. Employment

The total State employment figure for those persons 16 years of age and older is 1,158,245, which constitutes 31.8 percent of the entire State's population. Black Americans comprise 23.2 percent of the working labor force, and Spanish Americans 31.8 percent. There are no employment statistics available for the nearly 5,000 American Indians in Louisiana. Per capita personal income was $3,825 in 1973.

3. Major Economic Activities

Much of the economy of Louisiana is concentrated in the land with its rich alluvial topsoil deposits at the mouth of the Mississippi. One of the Nation's largest producers of sweet potatoes, rice, and sugarcane, Louisiana also contributes important supplies of pecans, soybeans, cotton, and corn. Because of the lucrative soybean concentration in the area, New Orleans has become the world's largest soybean collection and export terminal--out of this port flows 90 percent of the world's supply. Farm receipts in 1973 included $753 million from crops and $412 million from livestock.

Louisiana's sulphur, natural gas, and oil extraction make it the second largest mineral producer in the Nation. Much of the State's resources come from offshore deposits. Leading manufacturing industries include chemicals, food processing, petroleum and coal

products, paper, lumber and wood products, transportation equipment, stone clay-glass products, and apparel. With 7,409 square miles under water, the annual catch of fresh and salt water fish, shrimp, and oysters is valued at about $98 million. Louisiana's Spanish-French background, picturesque customs, and nostalgic festivals bring the State an estimated $776 million a year in tourist revenues.

4. Education

Thirty percent (1,096,403) of the total State population is between the ages of 3 and 34 and enrolled in some form of educational institution. Louisiana's 49 institutions of higher education have an enrollment of 132,647 students. These postsecondary schools offer 87 allied health programs. The following breakdown represents the postsecondary enrollment by minority group, as listed by the DHEW Racial and Ethnic Enrollment Data from Institutions of Higher Education, Fall 1972:

Caucasian and Others:	104,174	78.5 %
Black Americans:	26,999	20.4 %
Spanish Americans:	1,032	0.8 %
American Indians:	442	0.3 %
Total:	132,647	100.0 %

The remaining student population is distributed as follows:

Primary:	667,917
Secondary:	263,349
Total:	941,266

5. Health Manpower

Three percent of Louisiana's 1,158,245 employed persons are in the health field. Tables 10 and 11 present distributions of selected health and allied health professionals in Louisiana by minority group.

6. Health Facilities

Seven of Louisiana's 65 counties have no hospital facilities. There are 141 short-term general hospitals in the State having a combined capacity of 467 beds for each 100,000 population. Of these hospitals, 128 have emergency room components and 43 have outpatient departments. Outpatient utilization rates per 100,000 persons have been computed as 106,438. There are 197 extended care or nursing home facilities in Louisiana.

Table 10

PERSONS EMPLOYED IN SELECTED HEALTH PROFESSION
BY RACIAL AND ETHNIC CATEGORY
LOUISIANA

Profession	Total	Black	%	Caucasian & Other	%	Spanish	%
Medicine (M.A. & D.O.)	4,114	72	1.7	3,892	94.6	150	3.7
Dentistry	1,177	66	5.6	1,077	91.5	34	2.9
Optometry	270	--	--	263	97.4	7	2.6
Pharmacy	1,824	67	3.7	1,718	94.7	39	2.1
Podiatry	44	--	--	39	88.7	5	11.3
Veterinary Medicine	344	6	1.8	338	98.2	--	--
Nursing (R.N.)	10,947	1,342	12.2	9,605	87.8	--	--

U.S. Bureau of Census, United States Census of Population: 1970 Detailed Characteristics. PC(1) - D2, U.S. Government Printing Office, October, 1972.

Table 11

RACE AND ETHNIC COMPOSITIONS BY SEX OF PERSONS EMPLOYED IN SELECTED HEALTH OCCUPATIONS
LOUISIANA

Occupation	Total	Caucasian and Other				Black				Spanish			
		Male	Female	Sub-Total	%	Male	Female	Sub-Total	%	Male	Female	Sub-Total	%
Dietitians	803	25	474	499	62.1	21	283	304	37.9	--	--	--	--
Therapists	772	216	471	687	89.0	21	52	73	9.5	--	12	12	1.5
Technologists and Technicians:													
Clinical Laboratory	1,690	435	1,048	1,483	87.8	57	97	154	9.1	30	23	53	3.1
Dental Hygienist	87	--	87	87	100.0	--	--	--	--	--	--	--	--
Health Records	156	14	136	150	96.1	--	--	--	--	--	6	6	3.9
Radiologic	945	467	370	837	88.5	43	38	81	8.6	19	8	27	2.9
Therapy Assistants	28	--	19	19	67.9	--	9	9	32.1	--	--	--	--
Health Administrators	1,053	611	346	957	90.9	38	38	76	7.2	20	--	20	1.9
Dental Laboratory Technicians	346	226	18	244	70.6	36	34	70	20.2	22	10	32	9.2
Opticians, Lens, Grinders, and Polishers	286	218	44	262	91.6	8	--	8	2.8	11	5	16	5.6
Dental Assistants	929	6	867	873	94.0	--	40	40	4.3	--	16	16	1.7
Health Aides	1,300	146	591	737	56.7	126	425	551	42.3	6	6	12	1.0
Lay Midwives	19	4	5	9	47.3	--	10	10	52.7	--	--	--	--
Nursing Aides, Orderlies, and Attendants	12,239	764	5,097	5,861	47.9	1,120	5,148	6,268	51.2	6	104	110	0.9
Practical Nurses	3,650	58	2,331	2,389	65.5	35	1,190	1,225	33.5	--	36	36	1.0

U.S. Bureau of the Census. United States Census of Population: 1970. Detailed Characteristics. PC(1) - D2, U.S. Government Printing Office, October 1972.

B. Educational Institution Profile

Three educational institutions participated in this conference conducted in New Orleans: Louisiana State University, St. Mary's Dominican College, and Loyola University. The Louisiana State University School of Allied Health Professions was established in the New Orleans Medical Center in 1970. At present, the school has four departments which grant baccalaureate degrees in medical technology, occupational therapy, and physical therapy. The total allied health enrollment is 152 students; six Black Americans and six Spanish Americans.

All of the baccalaureate programs have, in general, a common core of information during the preprofessional freshman and sophomore years, which can be obtained at other institutions of higher education. Professional didactic and clinical education at the junior and senior level is provided in the School of Allied Health Professions as well as basic science departments, and various clinical departments of other professional schools of the Medical Center. Certain portions of the professional education are completed in the numerous affiliated hospitals and other health facilities. The common learning experience provided by the training of allied health students alongside nursing, medical, and dental students, is expected to improve eventual working relationships within the field as well as the health delivery service.

St. Mary's Dominican College is a Catholic liberal arts and sciences institution primarily for women and, secondarily, for students of both sexes in educational areas where certain needs of the community have been demonstrated. Situated in one of the oldest residential districts of New Orleans, this private college is conducted by the order of the Dominican Sisters. The campuses of Tulane and Loyola Universities are nearby and transportation is facilitated by the convenient location of the college on one of the last remaining streetcar lines in the U.S.

Allied health disciplines included in the Department of Biology are cytotechnology, medical technology, and respiratory care. The total enrollment for these programs is 39, including three students who are Black Americans and four students who are Spanish Americans. St. Mary's is affiliated with four major hospitals in the New Orleans area, providing extensive resources and opportunities for clinical training.

Loyola is a private, Catholic university, founded in 1912 with ownership vested in the Loyola community of Jesuit Fathers. Covering 19 acres in the uptown residential section of New Orleans, the University is immediately adjacent to Tulane University facing Audubon Park. The university offers a wide variety of undergraduate programs, as well as graduate degrees in business, education, music, and the sciences, and a professional degree in law. Enrollment totals about 4,500 students during the academic year and an additional 2,000 during the summer. Approximately three-fourths of these students are undergraduates, one-third are women, and two-fifths are part-time. There are somewhat under 300 faculty members, 50 of whom are Jesuits. Both faculty and students are geographically diversified with about two-thirds coming from the southern region of the United States.

Loyola University currently offers a 4-year degree program in dental hygiene with special emphasis given to advanced clinical practice, dental hygiene education, and liberal arts. A 2-year program is also available, which prepares the student for clinical practice.

The Department of Medical Technology is part of the College of Arts and Sciences and was one of the first group of schools of medical technology approved by the American Society of Clinical Pathologists and the Council on Medical Education of the AMA. Seniors in the program are assigned to one of four nearby hospitals for clinical affiliation. Allied health program enrollment numbers 196, having 12 Black Americans, four American Indians, and three Spanish Americans.

C. Group Discussion and Findings

1. First Student Session

The hotel room was set up to provide everyone with a clear view of the team leader and each other. The seats were comfortable; however, there was a significant amount of noise from outside the hotel since there was a street crew using a jack hammer to tear up the sidewalk across from the hotel. The curtains were closed to help block out the noise, but this was not helpful.

Three students participated from Louisiana State University and St. Mary's Dominican College. Two of the three students knew each other, which facilitated their early participation in the

discussion. After relating the purpose and format of the session, the leader did not have to draw responses from the participants. Contributions were generally appropriate to the topic, particularly since one purpose of the session was to elicit perceptions about barriers to minority education in the fields of allied health. Very few questions were asked of the leader. More often than not the leader asked questions, particularly when participants seemed not to be responding in enough depth.

Group leader and members were very clear in their expressions. The initial explanation of the purpose of the discussion group seemed to sufficiently satisfy students' curiosity about the project. All three students were Black.

One member seemed to be bitter about some of his experiences regarding what he viewed as the prejudiced actions of teachers and fellow students. Another member had some of the same feelings but articulated them only after the first student expressed his opinion. The last member disagreed about the prevalence, particularly as it was felt to be reflected in students and faculty members' actions. This disagreement did not result in a joint attack on the dissenter nor did the dissenter's presence make the other two any less willing to express their experiences and perceptions.

The group had an informal air. This was facilitated by the setting in a hotel parlor room and the seating arrangement, the fact that two students knew each other, all three had similar cultural experiences, and the leader's handling of the discussion. As a result, participants very freely expressed their personal feelings. The leader told them that, although faculty and administrators would be meeting on the following day, no reports of students' responses would be made. Students indicated that their responses would be the same even if this were not the case.

The listing and prioritization of recommendations was lengthy. There was a great deal of disagreement among the members about which issues were of most importance and how many other points were related to the issues. One of the participants seemed to be agitated

by the apparent difficulty in reaching a consensus and attempted to dominate the prioritization. The discussion leader had to continuously get the discussion back on track.

The major concerns are:

a. Counseling

All of the students agreed that although their respective high schools sponsored programs that exposed them to various career alternatives, representatives from the health field were usually physicians and nurses. They stated that, in retrospect, not only were representatives from the allied health professions conspicuously absent, but the traditional providers (M.D.'s and R.N.'s) did not discuss the allied health fields. It was the consensus of the group that the oversight resulted, in part, from the high school counselor's lack of information about these fields.

In addition, students' attendance at "Career Days" was often late in their high school careers. Even if allied health professions had been discussed, it would have been too late for a number of students to adjust their high school course selection to correspond with the prerequisites for entering some of the professions. In an effort to deal with this problem, students recommended that career counseling begin no later than the tenth grade.

b. Finance

Another matter of concern to these students was the availability of financial aid. They indicated that financial aid offices at their schools either would not or could not provide sufficient information about a variety of financial aid programs, and that most often the information given was related to loans rather than grants. There should be more grant programs available, even if there is a service component. The problem of obtaining financial assistance is compounded by the fact that the income of their families is taken into consideration as a part of the eligibility review. Even though some students receive little or no financial assistance

from their families, they are often ineligible to receive some loans and grants because evidence of need is not based on their income alone.

c. Increase Visibility of Profession through the Public Media

There is not enough information available to the public about allied health fields. Most often health professionals are thought of as physicians and nurses. The public media could change this phenomenon by attempting to educate and inform the citizenry about other professionals who are a part of the health care delivery team.

d. Minority Recruitment

A special emphasis should be placed on recruiting minority students. They, more often than their White counterparts, are unfamiliar with the variety of allied health professions. They should be made aware of their existence and the prerequisite for entering the various subfields.

e. Peer Pressure

Because of the small enrollment of minority students in allied health training programs, minority students often feel out of place. Two of the students, who were the only Blacks in their respective classes, sensed that they were not welcome to study or participate in clinical aspects of their training with their classmates. They felt that White students tended to associate with each other.

It was agreed that peer pressure would be lessened if more than one minority student were accepted in a program. There also seems to be an improvement of the situation as Black and White students become more familiar with each other and, thereby, more comfortable.

f. "Professional" Status of the Field

Students think that they, as professionals, should be considered an integral part of the health care team. However, they are concerned that M.D.'s and R.N.'s do not perceive them as such and that the perception is reflected in their attitudes and actions toward allied health professionals. In order to

"legitimize" themselves, some allied health professionals belittle others that fall in the same category. As people (medical providers and laymen) become more knowledgeable about the contribution of these professionals to the delivery of health care, the situation should be ameliorated.

2. Second Student Session

Nine students participated from St. Mary's Dominican College and Loyola University. This was a young group of students. They were rather unique in that they all seemed to come from well-educated, middle-class backgrounds. One was a National Merit semi-finalist, one was a finalist. All had attended private high schools. Six of the students were Black, one was Cuban, and two were White Anglo-Saxon. The Cuban student had been a citizen of the United States for a number of years and had grown up in Louisiana. One of the Black students was a citizen of the British West Indies.

All of the students were extremely verbal and participated well. The students from each school knew each other prior to this meeting, but seemed to interact just as easily with students from the other school. All members of the group had excellent verbal skills and expressed themselves clearly. They seemed to share experiences and interacted well with each other. The atmosphere was somewhat formal at the start, perhaps due to the formal conference room in which the meeting was held. The students quickly overcame this and appeared to be quite relaxed throughout the meeting.

Five categories of concern were identified in this session. These are:

a. Internship Programs

Four of the participants were studying medical technology, two were studying cytotechnology, and three were studying dental hygiene. Since medical technology and cytotechnology both require year-long internship programs, it is not surprising that this subject dominated the discussion.

Students expressed the opinion that New Orleans programs tend to seek out-of-state students for their internship positions rather than taking their own students. In fact, there is only one cytotechnology internship in Louisiana.

Students are not informed about the nature of internship programs when they are recruited. This is something they pick up, secondhand, from other students once they are in the program. The programs do not help students get internships; therefore, it is not too infrequent for a student to spend 3 years in school and then be unable to finish due to the inability to secure an internship. One member of this group is currently in such a position.

Even during the fourth year, while in an internship program away from their school, students must continue to pay tuition to that school. In addition, some internship programs require their own tuition. The school offers no financial help to the student to interview for or attend internship programs. The internship programs themselves differ as to the extent to which they will provide financial aid. Grants for the study of medical technology are available for some through the school but they do not extend into the internship year.

The evaluation for entrance into internship programs appears to be based on two things: connections, as a primary consideration, and academic grades, as a secondary consideration. Actual ability and technical skills are given too little consideration.

Medical technology techniques and equipment are not standard across hospitals--therefore, the techniques the student learns during internship limit employment to hospitals using the same techniques and equipment.

b. Recruitment

Students are given no real information about their programs prior to admission. Written program material does not give a true picture of the subtle aspects of these programs. Black students in Black high schools get no information about scholarships. It is only when a Black high school is integrated that information becomes available. College recruiters do not stress all allied health programs. One student learned about these programs through a special program operated by the Boy Scouts. Administrative red tape and poor in-school counseling discourage many people from completing the application process.

c. Educational Preparation

As noted above, this group was extremely strong in verbal ability and apparently had good high school education. One student apparently had some remedial work at Xavier University and indicated that Xavier assigns Blacks almost exclusively to its remedial programs. The group felt that remedial math and English just puts a student back 1 year without offering significant help. The faculty in remedial programs make students feel inadquate.

The major concern of students, however, in the area of educational preparation was in availability of nonallied electives once they enter their program. They expressed the desire to have more available time to take electives outside their program area. They felt this would make school more interesting and more applicable to their needs and desires. They were resentful that, while on the one hand the school insists that they should take electives to become well-rounded individuals, on the other their program requirements are so heavy that they have no free credit hours to use for electives.

d. Social Pressures

There appears to be no real faculty racism, and the students appear to relate well to each other. In dental hygiene, students must work on each other. One student described how, at the beginning of the program, students would pair off and if there was an odd number the student would be left alone. Over time, however, this avoidance broke down, and there are currently no more problems. While there is apparently no problem with overt or covert racism directed at students, it is felt that, where strings need to be pulled, it is more probable that White students will have the necessary connections. As for future job possibilities, the dental hygiene students felt that hospital work might involve some racism but that private practice or public health department work would not be affected by race.

e. Financial Aid

This was not a major concern of the students. Most minority students must have loans, work-study, or support from parents. There are few grants available, although two of these students are completely supported by the school. Neither one, however, knows the source of the money. Again, because these seem to be middle-class students, their parents may be better able to contribute to their education than has been the case with other groups.

3. Faculty Session

The hotel room was arranged to provide group members with easy view of the leader. There was the noise of a street crew outside, which necessitated putting the tape recorder in a more conspicuous place than was desirable. However, this did not seem to affect the group.

Most of the participants knew each other. The group members were very eager to express their views. There seemed to be a competitiveness on the part of some of the members. This resulted in an obvious one-upmanship with regard to individual school and program assets and length of responses. This decreased as discussion progressed but was never entirely eliminated. It was sometimes necessary for the leader to put the discussion back on track. The leader had to consciously elicit responses from one faculty member who initially did not participate much. It was unclear whether this person's initial low level of participation was the result of: not knowing some of the others, youth (compared to other group members), or less traditional point of view on some issues.

There was some lack of group cohesion. Subgroups developed and varied according to the issue. Members often disagreed, but there was no apparent animosity as a result of the disagreements. It appeared that participants respected each other and respected each other's right to disagree.

The atmosphere of the discussion was generally informal. Participants seemed to feel free to express their opinions and expressions of perceptions. However, faculty and administrators

justified their perceptions with statistics more often than did the students. One participant seemed to be concerned and nervous about several statements made regarding the reasons that Black students have problems in allied health fields and that Black schools' lack good allied health programs.

The group was very involved and fairly enthusiastic about the discussion but seemed a little less enthusiastic about listing and prioritizing recommendations. It was unclear whether group members were less interested in these goals or were ready to leave. In any case, once the format for listing and prioritizing was related, there was relatively little difficulty in achieving a consensus. Faculty representatives identified several major problems:

a. Finances

Although there was an allied health bill passed in 1971, there was no accompanying funding. Going into this and any other field requires money. The amount of money available for scholarships, grants, and loans is steadily decreasing, which makes it more difficult for potential students in general and minority students in particular.

That problem is compounded by the inability of programs to expand. There is a need for physical expansion and operating funds. It is impossible to accept the qualified students who now apply. There is something illogical about requesting increased minority recruitment without an accompanying commitment to provide facilities, equipment, and faculty for those and other students.

In addition, a commitment to minority recruitment means that money should be made available for tutorial or compensatory programs, particularly English and, to a lesser degree, the basic sciences. Students must have an acceptable command of the English language. Any major deficiency in that area is compounded by the necessity for learning medical terminology. Often the need to enroll in tutorial courses, particularly after entering an allied health field, puts the student behind. He or she must play catch-up and keep-up simultaneously. This

may mean that a student who potentially will be a good professional may take longer to complete the course sequence than his counterpart who does not need to participate in a compensatory program.

b. Recruitment

There is a need to acquaint potential minority students with the allied health professions. The best recruiters are students who are matriculated in allied health programs. There is an increased amount of interest and information available. The easiest avenue for recruiting Black students is by going to Black colleges and universities in the State. However, there is some resistance to this approach on the part of administrators at Black schools. They feel that the existing programs (most often at predominately White schools) will recruit all of the "best" Black students. The alternative espoused by Black administrators is to increase the number of allied health training programs at Black schools. In any event, it was the consensus of the group that there should be an increased effort in the area of minority recruitment.

c. Counseling

There should be more counseling for potential students. Counseling should be of better quality than is now available and should begin earlier. However, there was some difference of opinion with regard to when students should be expected to make career choices. Perhaps, more information about various career alternatives would allow students to make a decision more knowledgeably and earlier.

D. Priority Ranking

The priority ratings associated with specific problem areas identified by the students and faculty are presented in Table 12. The first student session in Louisiana was not very successful because of poor attendance. Only three students participated in the session, which made it necessary to hold a second session at a later time. Ten students participated in the second session. Therefore, the outcome of the two sessions is presented separately.

Table 12

PRIORITY SCORES ASSIGNED BY STUDENTS AND FACULTY
LOUISIANA

Problem Areas	Priority Scores
STUDENT (First Session)	
Earlier counseling, starting with 10th grade	2.7
More informed counselors	2.3
Career days featuring allied health professionals	2.3
Lack of information about financial assistance to students and financial-aid offices	1.0
Need for assistance through grants and scholarships, not loans	1.3
Qualification for assistance based on individual, not parents' income	1.0
Lack of public information about allied health professions	2.3
Active recruiting of minority students	1.7
Peer pressure due to small minority enrollment	3.3
Consideration of allied health professional as part of the health care team	4.3
(Second Session)	
Recruitment and job availability	1.4
Lack of information to students about the allied health field	
Curriculum	1.4
Internships	1.4
Lack of information to the general public about allied health professions	1.8
Need for grant programs	1.3
Independence in choice of courses	1.2
Personal communication between students and advisors	1.4
FACULTY	
Scholarships (with service requirement)	2.1
Construction funds for education facilities	2.8
Additional operational funds	2.6
Tutorial and remedial programs for students in post-secondary allied health programs	1.7
Acquaint minority with allied health and recruitment	2.2
More and better counseling at all educational levels	2.1

The first group of students designated more information about financial aid as their top priority, followed by individual qualifications for financial assistance instead of the present parent's income qualification, and additional financial aid in the form of grants and scholarships.

The second group chose more independence in course selection and more grant programs. However, the third priority was divided among four different topics: recruitment in relationship to job availability, information about curriculum, information about internships, and increase in personal communication with advisors.

The faculty assigned its priority to tutorial and remedial programs for enrolled students, scholarships with service requirements, and additional and more informed counseling at all educational levels.

VIII. MISSISSIPPI

A. State Profile

Mississippi is bordered by Alabama to the east, Tennessee to the north, Arkansas to the west, and Louisiana to the southwest. The Mississippi River also comprises the western border. The State capital is Jackson.

1. Population

Total:	2,215,912	100.0 %
Urban:	986,642	44.5 %
Rural:	1,230,270	55.5 %
Black:	815,770	36.8 %
Spanish:	8,182	0.3 %
Indian:	Not available	Not available
Area:	47,716 square miles	
Density:	46 persons per square mile	

2. Employment

There are a total of 718,948 persons 16 years and older employed in the State of Mississippi. Black Americans comprise 33.0 percent of the working labor force and Spanish Americans 0.3 percent. There were no available figures provided for the employment status of American Indians. Per capita personal income was $3,448 in 1973, which is the Nation's lowest.

3. Main Economic Activities

With more than 50 percent of the land classified as forest, timber products yielded over $1 billion in 1973. Mississippi has achieved considerable industrial expansion. The main fields have been lumber, along with furniture and paper, food processing, apparel, chemicals, transportation equipment, and machinery.

Discovery of oil deposits created a flurry of speculation in Mississippi during the 1940's. Oil (ninth nationally) and natural gas (eleventh) now contribute $229.1 million to the State's economy and account for 87 percent of Mississippi's total value. Another big boost to the economy is a $250 million NASA space installation, which is used as a center for International Earth Sciences by NOAA and NASA.

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Soybeans have taken over as Mississippi's largest crop, although the State ranks second only to Texas in cotton production. Other important farm products include large crops of pecans, sweet potatoes, rice, and sugarcane. Poultry and eggs are also important. Farm receipts totaled $1.5 billion in 1973. Tourism is of growing economic importance. It is estimated that out-of-state tourists spend over $450 million a year in the State.

4. Education

There are a total of 42 institutions of higher education with a total enrollment of 78.063. Twenty-four of these institutions offer 69 allied health programs. In addition there are 14 hospitals with allied health programs. The following breakdown shows post-secondary enrollment by minority group, as listed by DHEW Racial and Ethnic Enrollment Data from Institutions of Higher Education, Fall 1972:

Caucasian and Others:	60,000	76.9 %
Black Americans:	17,675	23.7 %
Spanish Americans:	277	0.3 %
American Indians:	111	0.1 %
Total:	78,063	100.0 %

The remaining population is distributed as follows:

Total:	570,810
Primary:	412,702
Secondary:	158,108

5. Health Manpower

There are a total of 30,052 persons employed in the health field. This comprises 4 percent of the employed population. Tables 13 and 14 present a distribution of selected health and allied health professions in Mississippi by minority group.

6. Health Facilities

Ten of Mississippi's 82 counties have no hospital facilities. There are 116 short-term general hospitals in the State having a combined capacity of 492 beds for each 100,000 population of these hospitals; 112 have emergency room components and 7 outpatient departments. Outpatient utilization rates per 100,000 persons have been computed as 64,818. There are 114 extended care or nursing home facilities in Mississippi.

Table 13

PERSONS EMPLOYED IN SELECTED HEALTH PROFESSIONS
BY RACIAL AND ETHNIC CATEGORY
MISSISSIPPI

Profession	Total	Black	%	Caucasian & Other	%	Spanish	%
Medicine (M.D. & D.O.)	1,727	89	5.1	1,593	92.2	45	2.7
Dentistry	611	50	8.1	561	91.8	--	--
Optometry	92	--	--	92	100.0	--	--
Pharmacy	1,109	22	2.0	1,080	97.3	7	0.7
Podiatry	18	--	--	18	100.0	--	--
Veterinary Medicine	230	22	9.5	202	87.9	6	2.6
Nursing (RN)	6,660	813	12.2	5,825	87.5	22	0.3

U.S. Bureau of Census. United States Census of Population: 1970. Detailed Characeristics: PC(1) - D2, U.S. Government Printing Office, October 1972.

Table 14

RACE AND ETHNIC COMPOSITIONS BY SEX OF PERSONS EMPLOYED IN SELECTED HEALTH OCCUPATIONS
MISSISSIPPI

Occupation	Total	Caucasian and Other				Black				Spanish			
		Male	Female	Sub-Total	%	Male	Female	Sub-Total	%	Male	Female	Sub-Total	%
Dietitians	496	16	336	352	71.0	9	135	144	29.0	--	--	--	--
Therapists	407	181	183	364	89.4	11	32	43	10.5	--	--	--	--
Technologists and Technicians:													
Clinical Laboratory	798	219	515	734	92.0	22	31	53	6.6	6	5	11	1.4
Dental Hygienist	51	--	51	51	100.0	--	--	--	--	--	--	--	--
Health Records	75	--	67	67	89.3	--	--	--	--	--	8	8	10.7
Radiologic	473	163	264	427	90.2	11	35	46	9.8	--	--	--	--
Therapy Assistants	20	9	--	9	45.0	--	11	11	55.0	--	--	--	--
Health Administrators	562	276	240	516	91.9	21	19	40	7.1	6	--	6	1.0
Dental Laboratory Technicians	99	59	15	74	74.8	9	4	13	13.1	7	5	12	12.1
Opticians, Lens, Grinders, and Polishers	93	77	11	88	94.6	5	--	5	5.4	--	--	--	--
Dental Assistants	579	7	518	525	90.6	--	54	54	9.4	--	--	--	--
Health Aides	732	77	378	455	62.1	45	225	270	36.9	--	7	7	1.0
Lay Midwives	40	--	5	5	12.5	--	35	35	87.5	--	--	--	--
Nursing Aides, Orderlies, and Attendants	6,903	696	3,260	3,956	57.3	540	2,395	2,935	42.5	--	12	12	0.2
Practical Nurses	2,064	45	1,582	1,627	78.9	16	413	429	20.8	--	8	8	0.3

U.S. Bureau of the Census. United States Census of Population: 1970. Detailed Characteristics. PC(1) - D2, U. S. Government Printing Office, October 1972.

B. Educational Institutional Profile

Two educational institutions were represented in the conference conducted in Jackson: the University of Mississippi and Hinds Junior College.

The University of Mississippi Medical Center provides education in the health sciences through research, teaching, and service in the field. Programs involve training for physicians, dentists, nurses, and allied members of the health team in the University of Mississippi's teaching hospitals and clinics. The medical center is located on a 155-acre campus in the heart of Jackson's metropolitan area. A 528-bed University Hospital occupies the core of the medical complex, and affiliation is maintained with two other major hospitals in the area.

Established in 1971, the School of Health-Related Professions presently consists of baccalaureate-level programs in medical record administration, medical technology, and physical therapy. A certificate program is available in dental hygiene. Numerous certificate and short-term programs are offered by various divisions of the School of Medicine and the University Hospital, some in cooperation with Hinds Junior College. Total enrollment for the School of Health-Related Professions is 197, including 19 Black Americans and 1 American Indian.

Hinds Junior College began in 1923 as an outgrowth of Hinds County Agricultural High School. Because of the demand for skilled industrial workers in Mississippi, the college places a high priority on vocational-technical training. Presently, Hinds Junior College operates three campuses: one at Raymond, a small town 12 miles from Jackson; one at Jackson, the capital city; and one at Vicksburg. From year to year the attendance has increased until the current enrollment is over 8,000.

Allied health programs at Hinds include Associate of Applied Science curriculums in dietetic technology, medical records technology, and certificate training in medical laboratory technology. Students involved in the dental-assisting program may earn either a certificate or an associate degree. The respiratory therapy training is offered in cooperation with the Mississippi Baptist Hospital and leads to the AAS degree. Total enrollment in these allied disciplines is 109; 12 of these students are Black Americans.

C. Group Discussion

1. Student Session

The group consisted of students from the University of Mississippi Medical Center and Hinds Junior College. On the average, this group of students tended to be older and more experienced than others. One of the participants was on the faculty of one of the allied health programs, but was also one of the first Black graduates of that program. Therefore, this person participated as a graduate not as a faculty member.

Most members of the group participated freely. One tended to be quiet. Another tended to take charge and questioned the others, giving information at various points. At one point, another member began to take control. These two people represented different philosophies of allied health education and, at times, they polarized the group. The first saw allied health education as being profession-educated oriented. The second saw it as being vocational training - work experience oriented. There were some fairly sharp exchanges between the two. On the whole, however, communication was good.

The participants never formed a true group. Those who came from Hinds Junior College knew each other well and interacted as a subgroup. The University of Mississippi students did not form their own subgroup. They tended to remain as individuals.

The meeting was held in a parlor room, which created a fairly informal atmosphere. However, the members were never completely at ease and never really interacted without some formality.

The group identified only two major issues, which were:

a. Counseling and Recruitment

The major problem in recruiting was that Black students do not know about allied health programs because they do not know people already working in the field. White students more often do. In effect, there are no role models for Blacks.

It was felt that, in general, recruiting and admissions requirements are biased toward White students. There is no real minority recruitment.

Traditionally, there has not been much high school counseling available, but now high school students are coming to hospitals and meeting students in the physical therapy program. High school students have typically been exposed only to medicine, dentistry, and nursing as health career possibilities. High school and college students are not counseled to take the proper science courses. Recently, high school career days have begun to bring students to hospitals, but, with the exception of physical therapy, high school students have not been exposed to students enrolled in allied health programs.

Most Black students in Mississippi come from rural areas, are young, and have no exposure to allied health professions. For example, Hinds Junior College has no public advertising. It is important to reach and motivate students at a young age. Colleges and high schools do not prepare students with proper course work for entry into allied health programs. Black students enrolled in these programs should be used in recruiting efforts because they can relate well to Black high school students.

The two reasons noted for seeking admission to allied health programs were the desire for career expansion and the fact that allied health jobs are available. Hinds Junior College requires a State Employment Aptitude Test prior to admission. The University of Mississippi uses regular college entrance requirements. In the discussion noted earlier between two students in which one saw allied health as vocational training and the other as professional education, it was a Hinds student supporting the vocational training position vs. a Mississippi student supporting the professional education position. Their personal opinions may, in fact, reflect the attitudes of their programs. The different admission test requirements would seem to support that.

While some students described friction between Black students and White students and faculty, another felt that there was no friction at all. This was the person who

tended to take charge of the group and to support the professional education position.

b. Financial Aid

The financial situation varies from student to student. Some people have grants, some are supported by parents, but this is generally an older group which is independent of parents. Some get GI Bill benefits. One works full-time and goes to school part-time. Most worked part-time. No one in this group had a loan.

There is a great deal of red tape involved in applying for Federal funds. The red tape eventually wears students down to the point that they fail to complete the application process for financial aid programs.

Housing is expensive, particularly for males, because the Mississippi Medical Center has on-campus housing only for female students and male medical students.

2. Faculty Session

Approximately seven faculty were present. One was Black, most were women, all were from the University of Mississippi Medical Center. There were no representatives from Hinds Junior College. With the exception of one older person, this group tended to be younger than has been the rule.

Since the entire group was from the same facility, they all knew each other well. They were extremely comfortable and quickly began to express their feelings. No one member dominated the group. The participants related well to each other and picked up on each other's ideas and comments. Their information was highly relevant to the subject, and the atmosphere was very loose and friendly. Everyone participated freely.

The group identified four major issues. These are:

a. Counseling and Recruitment

Counseling in high schools is poor. Counselors are typically seen as problem-solvers or disciplinarians rather than as career information providers. Counselors in high schools, junior colleges, and colleges usually carry a teaching

load in addition to their counseling responsibilities. This conflict inhibits their ability to counsel students. Counselors in high schools do not seek information on health careers from outside sources. Typically White high schools are the target of "career day" programs. Black schools were neglected until very recently. The University of Mississippi Medical Center has initiated a program called SNAP, which is an outreach program to high schools and junior colleges. It organizes career days and other recruiting efforts. It is designed to reach a new and better qualified type of student since there are currently sufficient applicants to fill the available places. This program is directed to all students because of the realization that students in general and minority students in particular are unaware of allied health programs and professions. Five years ago, Mississippi had no allied health programs, with the exception of a medical technology program. Today, there are 135 allied health programs, which means that many people are simply not aware of their development. Junior colleges tend to push students toward medicine, dentistry, and nursing, which are traditionally top fields in terms of money and prestige. Many students, however, would prefer allied health programs.

b. Educational Preparation

In the past year, the physical therapy program received applications from nine minority students, of whom four were academically competitive. These four were admitted and three enrolled.

SAT's and ACT's are not generally required. Their cost is not seen as a factor in limiting applications.

The University of Mississippi allied health programs currently offer certificates. Next year, they will begin offering B.S. degrees. A.A. degrees will be offered by associated junior colleges with a certificate from the University of Mississippi.

The health field is becoming popular with many people holding previous degrees (particularly science) who cannot

find jobs. This has the effect of raising the academic preparation of applicants.

c. Social Pressure

Black students are current victims of the past. Black schools have been traditionally poor. The socialization of Black students has not been such as to contribute to the personal growth necessary to train for an act in these professional roles. Black students are unsure of how they will be received in the predominantly white hospital settings. There are no, or few, role models. Covert and overt racial pressures exist from physicians who will not refer patients (to physical therapists, for instance) and from patients who do not want to be treated by Blacks.

Mississippi is a rural State. Many minority students have no experience in coping with life in a metropolitan area such as Jackson. Special counseling to assist in this problem would be helpful.

d. Financial Aid

There are some minority financial aid programs, but they are not really enough. In many ways, poverty level White students are discriminated against worse than Black students because there are no special programs for Whites. There is a medical center minority affairs person who seeks to assist minority students with financial and other problems, but his only real authority is with medical students, not allied health students.

Transportation was cited as a special case, in that it is not a large problem in Jackson but can become one during the student's full-time internship at another hospital. However, most provide some travel support and room and board. A general list of financial problems included books, tuition, uniforms, instruments, transportation, and malpractice insurance. Of particular concern are unexpected expenses, such as medical and auto repair bills.

Financial aid is available for poverty-level students but these students have so many additional problems that they do not go to school in spite of financial aid.

D. Priority Ranking

The priority ratings associated with specific problems areas identified by the students and faculty are presented in Table 15. Again, the faculty list of problems areas exceeded that of the students. The priorities set by the students were in the areas of counseling, financial aid and information of availability of these funds, and more public information about all health professions. Interestingly, the faculty divided its priorities equally between information to counselors about health careers, enlargement of health information component in master's level counseling, and more equitable provisions for and assessment of financial aid to allied health students based on need.

Table 15

PRIORITY SCORES ASSIGNED BY STUDENTS AND FACULTY
MISSISSIPPI

Problem Areas	Priority Scores
STUDENT	
Lack of better informed high school counselors	1.0
Use of students as recruiters on a work-study basis	2.4
Financial aid programs and information to students of the availability of these programs	1.2
Public information about all allied health professions	1.3
Advancement programs in allied health professions	2.5
FACULTY	
Provision of first-hand information to high school and college counselors about allied health careers	1.7
Enlargement of health information component in Master's level counseling	1.7
Locally developed counseling and recruitment information	3.0
Small scale information	3.0
Mass media information	3.3
High school "career awareness" programs, i.e., short-term on-the-job training health camps and funding for support	2.7
Specialized student counselor, i.e., academic, financial, social, and moral	1.8
Equitable provisions for financial aid to allied health students based on need, and equitable assessment of individual student's financial need	1.7
Education of parents to health career possibilities	2.3

IX. NORTH CAROLINA

A. State Profile

From a low coastal plain, with Cape Hatteras, Cape Lookout, and Cape Fear jutting into the Atlantic, North Carolina rises to a central Piedmont plateau region, and in the west to the Blue Ridge and Great Smoky Mountains.

North Carolina's neighboring States are Virginia bordering north, Tennessee lying on the west, and South Carolina bordering the southern area of the State. The State capital is Raleigh.

1. Population

Total:	5,082,059	100.0 %
Urban:	2,285,168	45.0 %
Rural:	2,796,891	55.0 %
Black:		22.4 %
Spanish:		0.4 %
Indian:		0.9 %
Area:	32,568 square miles	
Density:	156 persons per square mile	

2. Employment

The total employment figure for the State is 1,984,402 among persons 16 years of age and older, which is 39 percent of the total population. Black Americans constitute 18 percent of the total employed population, and Spanish Americans constitute 0.3 percent. No employment statistics are available for the American Indian population. Per capita personal income was $4,120 in 1973.

3. Major Economic Activities

The State leads the United States in production of textiles, bricks, and household furniture, and in both tobacco grown and cigarettes made. Modernization of production methods has brought North Carolina increasing prosperity from its factories in recent years. About 771,500 are employed in factories. The textile industry is the State's largest, with shipments valued at about $23.8 billion annually. Farm receipts were $952.3 million in 1973.

pp 105-106 blank

Tourism is important. In 1973, travelers spent an estimated $953 million in the State. Sports include year-round golfing, skiing at mountain resorts, fishing in both fresh and salt water, and hunting for both large and small game.

4. Education

There are 99 institutions of higher education in North Carolina with a total enrollment of 147,148. There are 70 institutions of higher education with schools of allied health that have a total of 227 various programs represented. Hospital-based programs total 36. The following breakdown shows postsecondary enrollment by minority group as listed by the DHEW Racial and Ethnic Enrollment Data from Institutions of Higher Education, Fall 1972:

Caucasian and Others:	114,816	77.9 %
Black Americans:	31,151	22.1 %
Spanish Americans:	361	0.3 %
American Indians:	820	0.6 %
Total:	147,148	100.0 %

The remaining student population is distributed as follows:

Total:	98,879
Primary:	69,752
Secondary:	29,127

5. Health Manpower

There are 55,434 persons employed in the health field, which amounts to 2.8 percent of the employed population. Tables 16 and 17 present a distribution of selected health and allied health professions in North Carolina by minority group.

6. Health Facilities

Sixteen of North Carolina's 100 counties have no hospital facilities. There are 144 short-term general hospitals in the State having a combined capacity of 421 beds for each 100,000 population. Of these hospitals, 140 have emergency room components and 28 have outpatient departments. Outpatient utilization rates per 100,000 persons have been computed as 83,844. There are 131 extended care or nursing home facilities in North Carolina.

Table 16

PERSONS EMPLOYED IN SELECTED HEALTH PROFESSIONS
BY RACIAL AND ETHNIC CATEGORY
NORTH CAROLINA

Profession	Total	Black	%	Caucasian & Other	%	Spanish	%
Medicine (M.D. & D.O.)	4,638	159	3.4	4,358	94.0	121	2.6
Dentistry	1,401	58	4.2	1,332	95.0	11	0.8
Optometry	363	5	1.3	358	98.7	--	--
Pharmacy	2,043	64	3.1	1,965	96.2	14	0.7
Podiatry	24	--	--	24	100.0	--	--
Veterinary Medicine	315	6	2.0	309	98.0	--	--
Nursing (RN)	17,565	1,886	10.8	15,679	89.2	--	--

U.S. Bureau of Census. United States Census of Population: 1970. Detailed Characeristics: PC(1) - D2, U.S. Government Printing Office, October 1972.

Table 17

RACE AND ETHNIC COMPOSITIONS BY SEX OF PERSONS EMPLOYED IN SELECTED HEALTH OCCUPATIONS
NORTH CAROLINA

Occupation	Total	Caucasian and Other				Black				Spanish			
		Male	Female	Sub-Total	%	Male	Female	Sub-Total	%	Male	Female	Sub-Total	%
Dietitians	1,251	78	822	900	72.0	35	316	351	28.0	--	--	--	--
Therapists	1,207	425	670	1,095	90.8	50	56	106	8.7	6	--	6	0.5
Technologists and Technicians:													
Clinical Laboratory	2,156	432	1,426	1,858	86.1	111	176	287	13.3	--	11	11	0.6
Dental Hygienist	238	20	218	238	100.0	--	--	--	--	--	--	--	--
Health Records	199	35	155	190	95.5	--	9	9	4.5	--	--	--	--
Radiologic	893	130	683	813	91.0	17	63	80	9.0	--	--	--	--
Therapy Assistants	55	21	24	45	81.9	5	5	10	18.1	--	--	--	--
Health Administrators	1,879	862	828	1,690	90.0	53	115	168	8.9	11	10	21	1.1
Dental Laboratory Technicians	322	194	95	289	89.8	25	8	33	10.2	--	--	--	--
Opticians, Lens, Grinders, and Polishers	367	291	62	353	96.1	14	--	14	3.9	--	--	--	--
Dental Assistants	1,740	42	1,619	1,661	95.5	5	74	79	4.5	--	--	--	--
Health Aides	2,436	250	1,360	1,610	66.0	159	654	813	33.4	7	6	13	0.6
Lay Midwives	36	6	--	6	16.7	10	20	30	83.3	--	--	--	--
Nursing Aides, Orderlies, and Attendants	14,356	1,551	6,635	8,186	57.0	2,053	4,065	6,118	42.7	--	52	52	0.3
Practical Nurses	4,218	66	2,952	3,018	71.6	46	1,135	1,181	28.0	--	19	19	0.4

U.S. Bureau of the Census. United States Census of Population: 1970. Detailed Characteristics. PC(1) - D2, U. S. Government Printing Office, October 1972.

B. Educational Institution Profile

Four educational institutions participated in this conference conducted at the Research Triangle Park: Duke University, North Carolina State University, University of North Carolina at Chapel Hill, and Wake Technical Institute.

Duke University, a privately supported, church-related (Methodist) institution has about 8,500 students enrolled in degree programs. These students annually represent nearly every State and 60 foreign countries. The university faculty numbers almost 1,150. Located in Durham, North Carolina, Duke consists of the Trinity College of Arts and Sciences, the Graduate School, and the Schools of Business Administration, Divinity, Engineering, Forestry, Law, Medicine, and Nursing.

The Bachelor of Health Science degree is available to qualified students in the physician's sssociate program, medical technology program, and the pathology assistant program. A Master of Science is offered in physical therapy. Certificate programs include: cytotechnology, electrophysiological technology, radiologic technology, and respiratory therapy. Enrollment in the allied health areas totals 57 students; one Black American and one Spanish American were enrolled in 1973.

Duke Hospital, one of the largest private hospitals in the South, is an integral part of the Medical Center and currently has 850 beds. Various cooperative teaching and training programs are available for allied health professional students at other area hospitals.

North Carolina State University is a large and complex institution, founded in 1862 as a Land-Grant State University. The varied academic program is comprised of some 70 bachelors of arts and science programs, 62 master's degree fields, and 41 doctoral degrees. The university is a leader in research activities that span a broad spectrum of about 700 scientific, technologic, and scholarly endeavors with a budget of over $20 million annually. Total university enrollment is about 13,800, with students coming from all 50 states and from some 60 other countries. The international enrollment is a distinctive feature of the institution, since its 480 international students give it a decidedly cosmopolitan atmosphere.

North Carolina State University has two parallel programs in medical technology. The first program consists of a 4-year curriculum with a Bachelor of Science in zoology followed by a year of training in a hospital laboratory school. In the second program, designed to be completed in 4 calendar years, the student takes a prescribed curriculum for 3 years at North Carolina State University. The fourth year consists of a 12-month course in medical technology at the University of North Carolina at Chapel Hill or other approved institutions. At the completion of this phase, a Bachelor of Science degree will be granted from North Carolina State University and a certificate in medical technology from the approved institution. Eleven Black students constitute the minority enrollment in medical technology; there are 177 students in the entire program.

Chartered in 1789, the University of North Carolina at Chapel Hill was the first State institution to admit and graduate students. Present enrollment has increased to more than 19,000 students; over 13,000 are undergraduates and approximately 6,000 are in graduate school. From early in its history, the University has encouraged research and creativity. UNC-Chapel Hill is the largest of the three Research Triangle institutions, which also include Duke University and North Carolina State University. Located in the center of a 30-mile radius formed by these universities is the 5,000-acre Research Triangle Park.

The School of Medicine offers jointly with the College of Arts and Sciences two programs leading to the Bachelor of Science in Medical Technology. The School of Medicine also grants the degree of Bachelor of Science in physical therapy for completion of the 4-year curriculum. Two and 4-year programs in dental hygiene offered by the School of Dentistry lead to either a certificate or Bachelor of Science degree respectively. Numerous certificate and short-term programs are provided through the various divisions of the School of Medicine and Chapel Hill's Memorial Hospital.

UNC-Chapel Hill has a total enrollment of 463 students in 11 programs classified as allied health fields. Twenty-two of those enrolled are minorities, including 19 blacks, and 3 persons of Spanish descent.

Wake Technical Institute (WTI), located south of Raleigh, North Carolina, is a State and local tax-supported institution. Programs leading to certificates, diplomas, or Associate in Applied Science degrees are offered. More than 30 specialized curricula are presently available, including occupational areas in engineering technologies, business, and office occupations, health related occupations, industrial skilled trades and service trades.

Allied health programs offered are a 12-month diploma program for a medical laboratory assistant, and a nine-month diploma program in operating room technology. Training is conducted in WTI's allied health facilities at Wake Memorial Hospital and in the hospital's laboratories. The first phase of training involves classroom and supervised laboratory instruction as preparation for hospital laboratory assignments during the second 6 months.

C. Group Discussion and Findings

1. Student Session

The meeting was attended by students from the University of North Carolina, Duke University, North Carolina State University, and Wake Technical Institute. Two students were in a Master's program in health administration, which is outside the scope of this project, and one was an Oriental. They did participate, however, and contributed to the discussion.

The meeting was held in the conference room at RTI around a conference table which may have contributed to an initial air of formality. The students were older and experienced. There were a number of men present.

The group was reluctant at first to express "feelings," as opposed to more superficial information giving. This reluctance was attributed not to inexperience but to skepticism born of previous experiences. They felt that they did not know the true use to which the information would be put and were therefore hesitant to express some rather bitter feelings. Eventually they became more involved and loosened up.

There were no truly dominant figures, although two males did stand out as major contributors. They tended to interact well with

each other. The information was highly relevant to the issues. At the close of the meeting, it was felt that the participants had formed a group. There was talk of continuing the contacts made in this meeting to further the goals of allied health students through joint action by students from different schools. They had had no prior contact with students with similar problems in other schools.

The members were clear in expressing their ideas and communicated well with the leader and other group members. There was very high cohesion. As noted, they spoke of continuing the new association with allied health students from other schools for the purpose of further action on their problems.

The group raised numerous issues, which can be generally grouped into five categories:

a. Counseling and Recruitment

The factor which prompted most students to apply to allied health programs was personal contacts. There was no health-careers counseling in their high schools and not enough health professionals coming into school to inspire students and make them aware of allied health professions. Career days focused on the physician, pharmacist, and nurse; never on other allied health professions. The opinion was expressed that colleges should employ full-time specialists in allied health program recruiting.

It was noted that the physician associate program does not actively recruit minorities. It is a problem in all programs that when a minority student applies, there are no minorities in the program already. This tends to be discouraging. None of the members of this group had to take admission tests. Some had interviews, which were costly and somewhat uncomfortable as the faculty members were all White.

b. Educational Preparation

Although noted as an important point, no one in this group has serious academic problems and none took remedial work. Most have a number of years of college or technical school prior to enrollment in their present programs.

c. Problems Affecting Completion

The reasons noted, which make completion difficult, were all race associated. It was felt that in clinical or research practice in one program, the single minority student has to handle more patients than White students and is assigned cleanup chores more often than White students. Some faculty exhibit obvious disregard for minority students. Some minority students drop out from the effects of these pressures.

The faculty of one program, however, was described as extremely supportive of minority students in terms of encouragement, attitude, and search for financial aid.

It was felt that minority students are often admitted to satisfy Equal Opportunity Laws and then subjected to pressures to drop out. It then appears to be the fault of the student rather than the program that no minorities are enrolled. It was suggested that the State hold an annual conference for minority students in allied health professions to provide a forum for mutual encouragement and attempts to solve problems.

d. Financial Aid

Almost everyone in this group has financial aid but most are loans. Work study was not seen as useful. Some programs do not allow it due to time restrictions. When it is available, the amount earned is applied by the school to reduce the student's loan; therefore, available income is not increased. Some schools do not allow allied health students to live on campus, resulting in higher rents and transportation costs.

Schools do not make information available on source of funds for minority students. There is a need for a National clearinghouse for financial aid informatio

e. Faculty Relations

It is difficult for a minority student to convince White faculty that he is being discriminated against. Some minority faculty members are protective of their positions and do not support students for fear of bucking the administration. There is, however, no problem in getting academic help.

2. Faculty Session

The North Carolina meeting was held in the conference room at the Research Triangle Institute. Participants represented the University of North Carolina, Duke University, and North Carolina State University. The group identified three areas of major concern and some lesser concerns.

a. Counseling

Students are, in general, not given a true understanding of what they are doing when they apply to a program. For instance, students often feel that admittance to a pre-physical therapy program guarantees or constitutes entry into a physical therapy program. This is not so, and high school counselors frequently fail to inform students of this. There is, in general, a lack of awareness about the nature and existence of allied health professions on the part of both students and counselors. Allied health training programs should attempt to educate high school counselors and counselors from Black colleges about allied health opportunities for their students.

It appears that high school counselors typically advise minority students to stay away from health careers. Also, there is now an organized effort by Black colleges to persuade high school counselors to advise Black students to attend Black colleges. The opening of White colleges to Blacks has drained many of the best Black students away from Black colleges.

High school counselors often tell minority students that they cannot do the work or that they will not get in if they apply.

b. Educational Preparation

The educational preparation of minority students is usually below that of White students. There is poor high school science preparation, but the biggest problem is their inability to write well. Basic education in primary and secondary schools is inadequate.

In the selection process, it is difficult to compare students from different schools because grade levels from one high school or junior college are not equivalent with the same level at another school in terms of actual ability.

It might be helpful to have preprogram courses to assess a student's ability prior to admission and to extend the length of a program to allow a slower pace for some students.

c. Recruitment

Programs must be careful not to over-recruit because there are often more applications than places to fill. Further, there is the problem of taking students who are not capable of performing the work.

With this in mind, a proper recruitment program should include outreach to provide information to students and high school counselors. It would be helpful to establish the job of recruitment outreach worker to actually lead students through the entire application process. Seminars should be organized for high school and junior college counselors.

At high school career days, allied health recruiters tend to attract White students only. This appears to be due to the fact that allied health professions have been closed to Blacks in the past, and there are no role models for Blacks in these professions.

Further, Black students identified almost exclusively the teacher as professional in the Black community. The aspect of professionalism and prestige would be more effective in recruiting Black students if they were exposed to Blacks already in the professions who could act as role models. It would be useful to bring high school students to hospitals to see allied health workers on the job.

Recruiting is further complicated by the fact that similar programs have different requirements at different schools. Similar allied health programs that have different entrance requirements should be standardized.

d. Other Concerns

Black students tend to relate better to and perform better for Black faculty.

There has been a general decline in the availability of stipends, but loans are more readily available. Work study

programs should be established with jobs in the field of study to provide financial aid, role models, and the prestige of actually performing in the field while still a student.

So few minority students enter these programs that drop-out rates are not reliable. Different programs have different rates. Students drop out for personal, financial, and academic reasons.

D. Priority Ranking

The priority ratings associated with specific problem areas identified by the students and faculty are presented in Table 18. It was interesting to note that in this conference, the student group divided its top priority in three ways: more financial aid, more social counseling, and no "tokenism" in job placement, all receiving the same score. The faculty ranking went first to lack of role models, and earlier and better-informed counseling, and it was then divided into more financial aid, improved basic skills in elementary school, and improved basic skills in secondary school.

Table 18

PRIORITY SCORES ASSIGNED BY STUDENTS AND FACULTY
NORTH CAROLINA

Problem Areas	Priority Scores
STUDENT	
Lack of minority recruitment	2.80
Financial aid	3.11
More financial aid	2.38
Better information about financial aid	2.50
Availability of grievance committee (independent from schools)	4.00
Availability of dean for student affairs	4.20
General assistance in completing allied health program	3.57
Financial assistance	2.50
Academic assistance	2.50
Social counseling	2.38
Annual conference for minority students in allied health	4.90
No "tokenism" in job placement	2.40
Exposure to allied health programs earlier in secondary schools	2.78
FACULTY	
Earlier and better informed counselors	1.60
More and more accurate public information about allied health professions	3.20
Lack of role models	1.00
Identification of role models	2.80
Utilization of role models	2.40
Need for more financial aid through grants	1.70
Better information about existing sources of financial aid	1.90
Higher priority to education and student financial support	2.20
Availability of emergency funds	3.90
Improved basic skills	2.00
Improved basic skills in elementary school	1.70
Improved basic skills in secondary school	1.70
Lack of programs to bridge educational gaps	2.90
Lack of time to develop new programs	3.50
Lack of utilization of existing programs	2.10

X. SOUTH CAROLINA

A. State Profile

Two main land regions comprise this roughly triangular-shaped State: the "low country," making up two-thirds of the total area and consisting of a part of the Atlantic Coastal Plain rising northwest from the ocean, and the "up country," consisting of a portion of the Piedmont Plateau and, in the extreme northwest, a small segment of the Blue Ridge Mountains of the Appalachian range. South Carolina is bounded on the north by North Carolina, on the east by the Atlantic Ocean, and on the south and west by Georgia. Columbia is the State capital.

1. Population

Total:	2,590,516	100.0 %
Urban:	1,232,195	48.0 %
Rural:	1,358,321	52.0 %
Black:	789,041	30.5 %
Spanish:	10,999	0.4 %
Indian:	1,809	0.1 %
Area:	31,055 square miles	
Density:	83 persons per square mile	

2. Employment

The total State employment figure for those persons 16 years of age and older is 954,556, constituting 36.8 percent of the entire State's population. Black Americans comprise 30.9 percent of the working labor force, and Spanish Americans 22.0 percent. There are no employment statistics available for the nearly 2,000 American Indians in South Carolina. In 1973, per capita personal income for South Carolina residents was $3,817.

3. Major Economic Activities

In recent years, farms have become fewer but larger. South Carolina grows more peaches than any other State except California. In 1955, tobacco surpassed cotton as the State's leading crop. By 1972, South Carolina ranked third in the Nation in tobacco production; receipts rose to $112,710,000, accounting for over 20 percent of the State's total. Soybeans, now South Carolina's second leading crop, are spreading across the larger farms, and farmers are transforming their cotton fields into grazing lands for the growing

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cattle industry. Also grown are peanuts, sweet potatoes, and pecans. Poultry and eggs are important revenue producers; the State has large sales of chickens and turkeys. Total farm revenue for 1973 was $747 million.

Vast projects such as the Atomic Energy Commission's $1.2 billion Savannah River Plant underscore South Carolina's transition from a basically agrarian economy to one in which industry plays the leading part. Manufacturing is by far the major source of income. Value added by manufacture is over $4.2 billion annually. The textile industry is still the most important, comprising almost half of the value of all manufactured products and employing more workers. South Carolina's mills rank high in cotton goods and are also a major producer of synthetic and woolen goods. Efforts to diversify industry and expand foreign trade and tourism have been highly successful. In 1973, new industrial investment was valued at $1.2 billion; it was estimated that this would provide 15,662 jobs. Major areas of expansion were in chemical, textile, and metal-working fields. Income from tourism has risen steadily. Travelers spent an estimated $443 million in 1973.

4. Education

Twenty-nine percent (763,828) of the total State population is between the ages of 3 and 34 and is enrolled in some form of educational institution. South Carolina's 47 institutions of higher education have an enrollment of 85,025 students. Eighteen of these postsecondary schools offer allied health programs. The following breakdown represents the postsecondary enrollment by minority group, as listed by DHEW Racial and Ethnic Enrollment Data from Institutions of Higher Education, Fall 1972:

Caucasian and Others:	72,020	84.7 %
Black Americans:	12,860	15.1 %
Spanish Americans:	89	0.1 %
American Indians:	56	0.1 %
Total:	85,025	100.0 %

The remaining student population is distributed as follows:

Primary:	460,341
Secondary:	189,156
Total:	649,497

5. Health Manpower

Approximately 3 percent of South Carolina's 954,556 employed persons are in the health field. Tables 19 and 20 present a distribution of selected health and allied health professions in South Carolina by minority groups.

6. Health Facilities

Six of South Carolina's 46 counties have no hospital facilities. There are 79 short-term general hospitals in the State, having a combined capacity of 449 beds for each 100,000 population. Of these hospitals, 72 have emergency room components and 27 have outpatient departments. Outpatient utilization rates per 100,000 persons have been computed as 97,700. There are 143 extended care or nursing home facilities in South Carolina.

B. Educational Institution Profile

Three educational institutions participated in the conferences: the Medical University of South Carolina, Trident Technical College, and Midlands Technical College. The Medical University of South Carolina is a State-supported, coeducational, professional institution containing six colleges. Founded in 1824, the university was the initial leader of medical education in the southern United States and remains the state's principal teaching hospital for health personnel. The university is situated on a peninsula in the historic, resort city of Charleston. All counties of South Carolina are represented in the student body. The present enrollment is approximately 1,918 students with 457 full-time faculty members and more than 415 part-time.

The College of Allied Health Sciences was established in 1966. Included in its curriculum of study are a number of courses, which were taught under the auspices of the College of Medicine for some years. There are 209 students enrolled in the college, seven of whom are Black Americans. Certificates are awarded for successful completion of courses, and a B.S. degree may be awarded for Upper Division courses, which are equivalent in length and material to college courses.

Table 19

PERSONS EMPLOYED IN SELECTED HEALTH PROFESSIONS
BY RACIAL AND ETHNIC CATEGORY
SOUTH CAROLINA

Profession	Total	Black	%	Caucasian & Other	%	Spanish	%
Medicine (M.D. & D.O.)	2,424	70	2.9	2,292	94.6	62	2.5
Dentistry	605	32	5.2	573	94.8	--	--
Optometry	215	4	1.9	211	98.1	--	--
Pharmacy	1,269	13	1.0	1,256	99.0	--	--
Podiatry	20	--	--	20	100.0	--	--
Veterinary Medicine	118	--	--	118	100.0	--	--
Nursing (RN)	8,314	941	11.4	7,328	88.1	45	0.5

U.S. Bureau of Census. United States Census of Population: 1970. Detailed Characeristics: PC(1) - D2, U.S. Government Printing Office, October 1972.

Table 20

RACE AND ETHNIC COMPOSITIONS BY SEX OF PERSONS EMPLOYED IN SELECTED HEALTH OCCUPATIONS
SOUTH CAROLINA

Occupation	Total	Caucasian and Other				Black				Spanish			
		Male	Female	Sub-Total	%	Male	Female	Sub-Total	%	Male	Female	Sub-Total	%
Dietitians	696	28	460	488	70.1	12	196	208	29.9	--	--	--	--
Therapists	495	177	255	432	87.2	12	43	55	11.1	--	8	8	1.7
Technologists and Technicians:													
Clinical Laboratory	931	188	632	820	88.0	37	74	111	12.0	--	--	--	--
Dental Hygienist	134	10	124	134	100.0	--	--	--	--	--	--	--	--
Health Records	123	5	118	123	100.0	--	--	--	--	--	--	--	--
Radiologic	499	98	380	478	95.8	11	4	15	3.0	--	--	6	1.2
Therapy Assistants	46	27	3	30	65.2	12	4	16	34.8	--	--	--	--
Health Administrators	746	423	308	731	98.0	--	15	15	2.0	--	--	--	--
Dental Laboratory Technicians	138	85	39	124	89.9	14	--	14	10.1	--	--	--	--
Opticians, Lens, Grinders, and Polishers	332	103	146	249	75.0	22	54	76	22.8	--	7	7	0.2
Dental Assistants	702	20	642	662	94.3	--	40	40	5.7	--	--	--	--
Health Aides	911	113	450	563	61.8	55	293	348	38.2	--	--	--	--
Lay Midwives	33	--	6	6	18.1	5	22	27	81.9	--	--	--	--
Nursing Aides, Orderlies, and Attendants	6,774	496	2,332	2,828	41.8	967	2,972	3,939	58.1	--	7	--	0.1
Practical Nurses	1,893	20	1,122	1,142	60.3	24	727	751	39.7	--	--	--	--

U.S. Bureau of the Census. United States Census of Population: 1970. Detailed Characteristics. PC(1) - D2, U. S. Government Printing Office, October 1972.

The upper division programs are those which admit students from an accredited institution at the level of third-year college or above. They comprise 1- and 2-year degree and certificate programs in cytotechnology and medical technology and 2-year degree programs in physical therapy, dental hygiene, and medical records administration. The physician's assistant or medex training, also in the upper division, entails a 3-month didactic phase followed by a 9-month clinical preceptorship.

Lower division programs are administered by the College of Allied Health Sciences and are offered in conjunction with the Trident Technical College which provides the didactic training for the first year of the 2-year program. These programs include 2-year associate and certificate degree curricula in dental assisting, histotechnology, medical laboratory technology, radiologic technology, and respiratory therapy. One-year coursework leading to a certificate is provided in the histologic technology curriculum.

Midlands Technical College in Columbia, South Carolina, is a 2-year comprehensive institution with a trade/technical school orientation. In response to the continuing demand for trained specialists in the health area, Midland's Allied Health Division offers 1- and 2-year programs in dental assisting, dental hygienist, medical laboratory technology, radiological technology, and respiratory therapy technology.

Graduates of this division will be prepared to function as middle-level professionals in the health care team. Each course in allied health is a completely integrated curriculum of general academic and technical health specialty education. All courses are under the joint guidance of health professionals and technical specialists.

Enrollment of the two campuses in Midland's Tech Allied Health Division is 163. The six minority students are all classified as Black Americans.

C. Group Discussions and Findings

1. Student Session

A hotel meeting room provided the setting for this conference. The maintenance-neglected room did not prove to be a deterrant to the conference. The participants consisted of students from the Medical University of South Carolina, Midland Technical Institute,

and Trident Technical College. The students very effectively formulated and communicated their experiences and ideas, and group interaction was extremely good. The participants assumed the leading role in generating a discussion among themselves, and no one attempted to dominate the discussion. The group as a whole was extremely efficient in discussing the issues and was able to effectively summarize the conference by listing priorities and assigning priority rankings for each of the problem areas identified.

The group identified four major discussion categories. They are:

a. Counseling and Recruitment

The major problem in this area seemed to be the need for more information about allied health to the public and to the secondary school population. Students indicated that they received their information by visiting hospitals, from relatives working in health fields, or from recruiters visiting high schools. They felt that high school guidance counselors are not aware of the opportunities available in the allied health field and placed emphasis on the need for more extensive recruitment programs for and by minority representatives. Well-designed orientation programs were also a recommendation for introducing applicants to the allied health profession.

b. Educational Requirements

Students desiring to enter allied health professions are uninformed as to the necessary prerequisites for an allied health career choice. As a result many students must enroll in "independent study programs" (ISP) or remedial "guided course" curricula prior to entering their career choice. Students felt that these requirements are used to discourage or hinder them from pursuing their professional training and are helpful only to those students who have been away from school for a long period of time. The students were irritated that they were accepted at the school but not into a program until successful completion of the ISP, which makes program completion lengthier. All members of the group felt that minorities have to meet higher requirements to get into the

Program than Whites. They believed that White students put in an application and get accepted right away while minority students encounter long delays and often do not get in.

c. Disillusionment

Some students indicated that they were discouraged by faculty members before beginning their training and that clerical positions were suggested to many students desiring to enter health technology fields.

Apprehension among the students arises from feeling that they are "picked" at random to fill quotas. Other points advanced by the students were the length of the application process and the last-minute notification of acceptance. In addition, stigmas placed on male- or female-dominated fields and stigmas of nonprofessionalism cause apprehension for many students. Out of ten students who attended the session only one was male. The females pointed to males getting the choice jobs and higher pay.

d. Financial Aid

The high cost of health education and lack of finances are a major barrier to many of the students. Lack of finances in emergency situations is a special problem. Students in general are not knowledgeable of various available sources of financial aid.

The family income ceiling qualifying students for financial aid is too low. Also, in applying for financial aid, the information requested becomes detailed and involved and an error in completing the forms can be very time consuming. Students indicated a need for assistance in completing the forms.

2. Faculty-Administrative Session

The conference was held in a hotel meeting room. Participants were seated around a large conference table. Initial apprehension that the maintenance-neglected room would interfere with the atmosphere of the conference dissipated as the conference got underway. The school representation consisted of faculty and administrators from

the Medical University of South Carolina, Midland Technical Institute, and Trident Technical College. All of the group members participated significantly in the discussion. One group member who knew most of the other participants was instrumental in eliciting responses from others who were knowledgeable of particular issues being discussed. Overall, this conference was very informative.

The participants were all very effective in communicating and conveying their ideas and perceptions. They readily formed a team-type relationship, and each member related his experiences and ideas, upon which the group as a whole generated a discussion. This group rapport continued throughout the conference, and a formal though casual atmosphere remained. A marked asset of this fact is probably largely attributed to the participant's deep interest and concern of the problems.

The group identified four major areas of concern:

a. Counseling and Recruitment

A major problem in this area is a general lack of knowledge about allied health careers. The group identified the need for counselors who are more informed about the availability of allied health professions. They felt that allied health was projected by some high school counselors as an alternative from a 4-year college, which leads students to believe that the programs are easy and not as demanding as they really are. The general public as a whole lacks specific knowledge of the different programs included in allied health professions. Advertising through the mass media was a suggested method of public education as well as recruitment beginning at the junior high school level.

b. Educational Requirements

Many students who seek entrance into allied health professions are inadequately prepared academically. The students have had minimal exposure to the mathematics and scientific curricula necessary for admission into an allied health career. In addition, low grade point averages (GPA's) and Scholastic Aptitude Test (SAT) scores are unsatisfactory, requiring that many students enter on a probationary status.

Special letters of recommendation are written for some students whose true ability is not reflected by test scores.

Some participants emphasized the need for South Carolina to upgrade its public educational system since the minority students seemed to be highly motivated but poorly prepared for higher technical training. The biggest barrier for staying in the programs was poor performance. The overall attrition experienced was 40 percent, whereas Black attrition was 50 percent.

c. Financial Aid

Lack of finances is a major problem for students who relieve their financial pressures by working part-time jobs. But this produces academic problems.

The lock-step curriculum causes more financial hardship if a student fails a course since required courses are offered only once a year. This means that additional time is required to complete a program.

The school has enough funds for work-study programs. The problem is that with the demands of the educational programs, the student does not have time to work without impairing academic performance.

Family income requirements for receiving Federal aid are too stringent. Moreover, self-supported individuals are penalized more heavily in trying to receive financial aid than family-supported individuals.

Finally, the public transportation system does not support the needs of the students, who cannot get to school for classes without an automobile.

d. Socialization Factors

For students coming from a predominantly Black community, social adjustments often cause tension. This factor, coupled with the performance expectations and realization of the effects of failure, produces a great deal of concern. Also, students see the allied health professions as a second or third choice profession if they fail to qualify for the high status health professions, such as medicine, dentistry, or nursing.

The group then recommended that more publicity about allied health be developed and used to inform secondary school students so that they would be better prepared to enter a program in the field.

It was also noted that sometimes students become disillusioned with the allied health professions during training, although there was no discussion of how this disillusionment occurs. The only example given was that of students who have contact with patients, blood, serious physical injury, and death. These students tend to drop out at a higher rate than others.

The question about peer pressure as a barrier was raised but never really answered.

D. Priority Rankings

The priority ratings associated with specific problem areas identified by the students and faculty are presented in Table 21. The South Carolina conference was the first to be held in our region. Therefore, some misunderstandings were experienced with the ranking process, especially in the student session. As can be noted from the priority lists there are no composite scores for the students' problem areas. The reason for this is that problems were ranked in an ordinal instead of an individual value scale. Discussion team members were very careful to explain the ranking method in subsequent sessions.

This problem notwithstanding, the two groups agreed on most of the areas identified. The students were additionally concerned with standardization of admission requirements and lack of minority representation among the existing allied health occupations.

The faculty-administrator group added basic elementary and secondary instruction to its list of recognizable problems as well as child day care, length of program, national testing measures, and career disillusionment. The top priority selected by this group was basic elementary and secondary instruction, followed by financial aid and public information.

Table 21

PRIORITY SCORES ASSIGNED BY STUDENTS AND FACULTY
SOUTH CAROLINA

Problem Areas	Priority Scores
STUDENT	
Professionalization of allied health careers	1.0
Prestige	
Economic	
Counseling - more information	2.0
Career choice	
Costs of pursuing allied health education	
Standardization of admission requirements	3.0
Standardization of educational requirements	4.0
For admission	
For completion	
Information about financial aid	5.0
At time of admission	
Sources of financial aid	
Assisting with financial aid application process	
Lack of transportation	6.0
Availability and schedule of required coursework	7.0
Lack of minority representation among current allied health occupations	8.0
Greater exposure of allied health education in general	9.0
Pressure toward minority students from other technicians, faculty, and other students	10.0
FACULTY	
Basic instruction (elementary and secondary)	1.0
Public information	2.0
Prestige	2.0
Educational entrance requirements	3.0
Curriculum requirements	3.0
Transportation	3.0
Peer pressure	3.0
Child day care	4.0
Financial aid	1.0
Length of program	5.0
National testing measures	4.0
Counseling	2.0
Disillusionment	3.0

XI. STUDY OVERVIEW

This section presents an overview of some of the statistical information included as background material in this report. Likewise, the problem areas identified in the student and faculty-administrator conferences throughout the southeastern region are combined in this section and featured as the overall outcome of this project.

A comparative analysis of the States' sociodemographic profile and identification of barriers resulting from the discussion sessions held has purposely not been done, as this was an exploratory study. The study did not intend to seek statistically valid representation from each existing school or program, from different areas in each State, or even from each minority group included. Therefore, it did not obtain such a representation. For these reasons a State-by-State comparison is not warranted.

This study, however, accomplished the identification of barriers perceived by individuals involved in the day-to-day operations of allied health educational programs who are the faculty, administrators, and students. The information acquired will serve as input for the development of assistance programs and the formulation of hypotheses to be tested in continuing studies of this subject matter.

The operational aspects of the study imposed many restrictions. The project was re-developed, implemented, and completed within a 6-month period, which presented scheduling problems regarding time and place for the conferences as well as traveling expense coverage for potential participants. As a result, the study population had to be limited to large metropolitan areas where the participant selection could be simplified but which caused the neglect of small or rural areas.

The present study set out to identify perceptions of problem areas in an effort to improve the development of educational assistance programs for minority students. By definition, perception does not imply complete agreement with facts. It should be kept in mind, therefore, that the information reported in this work was obtained on the basis of the participants' perceptions of facts. Further, no effort was made to identify the causative activities that created such perceptions.

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The majority of the comments made were based on experiences by and about Black students. Only two of the student sessions involved Spanish Americans, and American Indians were not represented in any of the student or faculty-administrator sessions of the conferences. There were a few graduates of allied health programs represented, but none of the unsuccessful applicants who had been invited attended, although some had accepted the extended invitation. Only two White students attended any of the meetings. Many of the allied health programs did not have minority students currently enrolled and most had had very few minority graduates, if any.

The fieldwork was conducted at a time in the school year when students were either in clinical internships or taking final exams. Even so, enough participants attended each conference to make it worthwhile, and, although some participants were initially apprehensive or shy, the sessions were planned to be small enough to give everyone an opportunity to interact actively.

A. Sociodemographic Characteristics of the States

Table 22 presents a summary of the sociodemographic characteristics included in the individual profiles. Of the seven states chosen for study, four were primarily urban and three were primarily rural. The total population ranged from slightly over 2 million in Mississippi to almost 7 million in Florida. The Black population's lowest percentage was recorded in Florida as 15.5 percent with the largest recorded in Mississippi as 36.8 percent. There were 0.3 percent Spanish Americans in Mississippi and 6.6 percent in Florida. Figures for American Indians were not available in Mississippi and Florida; however, the largest percentage appeared in North Carolina, and it was 0.9 percent. Each of the remaining states had 0.1 percent American Indians.

The urban states had a population density of 67 to 114 persons per square mile, which differed by 21 to 42 from that of the rural states' population density, which ranged from 46 to 156 persons per square mile.

The lowest per capita income was found in Mississippi, which was $3,448, and the highest was found in Florida, which was $4,647.

With the exception of Alabama and Mississippi, where every participating educational institution was public, the remaining states were represented in the conferences by both public and private schools.

Table 22

SOCIODEMOGRAPHIC CHARACTERISTICS OF THE STATES

	Alabama		Florida		Georgia		Louisiana		Mississippi		North Carolina		South Carolina	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
POPULATION														
Total	3,444,165	100.0	6,709,433	100.0	4,589,575	100.0	3,641,306	100.0	2,215,912	100.0	5,082,059	100.0	2,590,516	100.0
Urban	2,011,941	58.4	5,458,137	80.5	2,768,074	80.5	2,406,150	66.9	986,642	44.5	2,285,168	45.0	1,232,195	48.0
Rural	1,432,224	41.6	1,321,305	19.5	1,821,501	19.5	1,235,156	34.0	1,230,270	55.5	2,796,891	55.0	1,358,321	52.0
Black	923,713	26.4	1,049,578	15.5	1,190,779	25.9	1,088,734	29.9	815,770	36.8		22.4	789,041	30.5
Spanish	13,313	0.4	451,382	6.6	29,824	0.6	69,678	1.9	8,182	0.3		0.4	10,999	0.4
Indian	2,153	0.1	n.a.	---	2,236	0.1	4,992	0.1	n.a.	---		0.9	1,809	0.1
AREA	51,609 sq. mi.		58,560 sq. mi.		51,609 sq. mi.		48,523 sq. mi.		47,716 sq. mi.		32,568 sq. mi.		31,055 sq. mi.	
DENSITY	67 pp/sq. mi.		114 pp/sq. mi.		89 pp/sq. mi.		75 pp/sq. mi.		46 pp/sq. mi.		156 pp/sq. mi.		83 pp/sq. mi.	
EMPLOYMENT														
Total	1,193,315	35.0	2,426,260	36.0	1,746,769	38.1	1,158,245	31.8	718,948	32.0	1,984,402	39.0	954,556	36.8
Black		21.3		15.0		22.5		23.2		33.0		18.0		30.9
Spanish		0.3		7.6		22.5		31.8		0.3		0.3		22.0
Indian	n.a.	---	n.a.	---	n.a.	---	n.a.	---	n.a.	---	n.a.	---	n.a.	---
EDUCATION														
Total	86,185		189,732		107,060		132,647		78,063		147,148		85,025	
Black	18,501	21.5	16,797	8.9	19,669	18.4	26,999	20.4	17,675	23.7	31,151	22.1	12,860	15.1
Spanish	351	0.4	4,577	2.4	294	0.3	1,032	0.8	277	0.3	36	0.3	89	0.1
Indian	213	0.3	286	0.1	229	0.2	442	0.3	111	0.1	820	0.6	56	0.1

Ref. - U.S. Census Bureau

Total enrollment in these institutions went from less than 1,000 to 19,000 students in all degree programs. Allied health enrollment, however, started at 39 students and increased to 52 among the schools. Of these, the lowest minority enrollment was 4 and the highest was 52.

Table 23 presents a racial distribution of allied health manpower. According to the 1970 Bureau of the Census statistics on race and ethnic composition of persons employed in selected health occupations by State, the highest percentage of minority employment is in dietetics for Blacks in the States of Alabama, Florida, Georgia, Louisiana, and North Carolina, and in therapy assisting in Mississippi and South Carolina.

Spanish Americans have concentrated in clinical laboratory in Alabama and Florida, in dental laboratory in Louisiana and Mississippi, in health records in Georgia, in health administration in North Carolina, and in therapy (physical) in South Carolina. There were no figures available for American Indians.

B. General Findings

As the intent of this study was to consider resultant individual characteristics and problems that may affect those persons seeking an allied health career, variables identified by conference participants in the southeastern region have been grouped under the following headings and discussed separately. In addition, Tables 24 and 25 present a summary of problems identified by students and faculty-administrator groups.

1. Motivation

In many of the study areas motivation was found to be existing among minority groups. It was educational preparation that seemed to be lacking.

The faculty-administrator groups concurred in desiring the development of informational material regarding allied health professions to be used in minority schools and communities. The purpose of this material would be to motivate minority students early in their secondary education and could serve to help them explore possible careers in the field of allied health.

In developing this material, it should be remembered that, traditionally, focus has been placed in the medical, dental, and

Table 23

ALLIED HEALTH MANPOWER BY STATE*

	Dieticians		Therapists		Therapy Assistants		Health Adm.		Clinical Lab.		Dental Hygienist		Dental Lab. Technicians		Dental Assistants		Health Records		Radiologic Technicians	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
ALABAMA																				
Total	782	100.0	750	100.0	18	100.0	1,122	100.0	1,635	100.0	512	100.0	288	100.0	1,145	100.0	144	100.0	708	100.0
Black	244	31.2	152	20.2	4	6.0	68	6.0	163	9.9	24	4.7	15	5.2	121	10.6	5	3.5	64	9.0
Spanish	---	---	7	1.0	---	---	---	---	23	1.4	---	---	---	---	---	---	---	---	---	---
FLORIDA																				
Total	1,269	100.0	2,150	100.0	169	100.0	2,089	100.0	4,402	100.0	641	100.0	1,050	100.0	2,854	100.0	305	100.0	1,662	100.0
Black	321	25.3	164	7.7	12	7.1	93	4.5	268	6.0	5	0.9	39	3.7	125	4.3	9	3.0	83	5.0
Spanish	105	8.2	146	6.8	19	11.2	60	2.9	699	16.0	26	4.0	156	14.8	194	6.8	---	---	207	12.5
GEORGIA																				
Total	1,131	100.0	1,038	100.0	60	100.0	1,462	100.0	2,371	100.0	471	100.0	451	100.0	1,369	100.0	242	100.0	931	100.0
Black	293	26.0	96	9.2	5	8.3	57	4.0	305	12.9	---	---	25	5.6	141	10.3	10	4.2	82	8.9
Spanish	6	0.5	8	0.8	---	---	5	0.3	42	1.8	---	---	5	1.1	5	0.4	14	5.8	7	0.7
LOUISIANA																				
Total	803	100.0	772	100.0	28	100.0	1,053	100.0	1,690	100.0	87	100.0	346	100.0	929	100.0	156	100.0	945	100.0
Black	304	37.9	73	9.5	9	32.1	76	7.2	154	9.1	---	---	70	20.2	40	4.3	---	---	81	8.6
Spanish	---	---	12	1.5	---	---	20	1.9	53	3.1	---	---	32	9.2	16	1.7	6	3.9	27	2.9
MISSISSIPPI																				
Total	496	100.0	407	100.0	20	100.0	562	100.0	698	100.0	51	100.0	99	100.0	579	100.0	75	100.0	473	100.0
Black	144	29.0	43	10.5	11	55.0	40	7.1	53	6.6	---	---	13	13.1	54	9.4	---	---	46	9.8
Spanish	---	---	---	---	---	---	6	1.0	11	1.4	---	---	12	12.1	---	---	8	10.7	---	---
NORTH CAROLINA																				
Total	1,251	100.0	1,207	100.0	55	100.0	1,879	100.0	2,156	100.0	238	100.0	322	100.0	1,740	100.0	199	100.0	893	100.0
Black	351	28.0	106	8.7	10	18.1	168	8.9	287	13.3	---	---	33	10.2	79	4.5	9	4.5	80	9.0
Spanish	---	---	6	0.5	---	---	21	1.1	11	0.6	---	---	---	---	---	---	---	---	---	---
SOUTH CAROLINA																				
Total	696	100.0	495	100.0	46	27	746	100.0	931	100.0	134	100.0	138	100.0	702	100.0	123	100.0	499	100.0
Black	208	29.9	55	11.1	16	34.8	15	2.0	111	12.0	---	---	14	10.1	40	5.7	---	---	15	3.0
Spanish	---	---	8	1.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6	1.2

* Figures for American Indians were not available

Ref. - U.S. Census Bureau

Table 24

SUMMARY OF PROBLEMS IDENTIFIED BY STUDENTS

Problems	Ala.	Fla.	Ga.	La.	Miss.	N.C.	S.C.
I. MOTIVATION							
Lack of personal communication between students and advisors	x		x	x		x	
Remuneration for work done during clinical assignments					x		x
Lack of consideration of allied health professionals as part of the health care team (technically and financially)				x			x
Allied health counseling early in secondary schools	x	x	x	x	x	x	x
II. FINANCIAL AID							
Higher income ceiling for financial aid eligibility based on individual's resources	x	x	x	x	x		x
Elimination of qualifying date for BEOG	x		x				x
Financial assistance for transportation	x	x	x				x
Elimination of fees for financial assistance applications		x			x		x
Assistance with expenses of clinical training uniforms, instruments, and travel		x	x	x			x
Lack of information about sources of financial aid prior to admission	x		x	x	x	x	x
More grants and stipends rather than loans			x	x		x	
III. ADDITIONAL TRAINING							
Better adacemic preparation in predominantly Black schools	x						
Evaluation and standardization of placement and aptitude tests (specifically english and mathematics)	x		x				x
Development of advancement programs in allied health professions					x		
IV. MINORITY PARTICIPATION							
Independent grievance committee for minority problems	x		x			x	
Lack of minority representation among allied health occupations			x	x			x
Minority recruiting programs for allied health professions		x		x		x	
Racial pressure toward minority students from other technicians, faculty, and students			x			x	x
Existence of peer pressure due to small minority enrollment			x	x			

Table 25

SUMMARY OF PROBLEMS IDENTIFIED BY FACULTY-ADMINISTRATORS

Problems	Ala.	Fla.	Ga.	La.	Miss.	N.C.	S.C.
I. MOTIVATION							
Excessive length of some programs							x
Mass media presentations about allied health professions	x		x	x	x	x	x
Validity of admissions testing devices		x					x
II. FINANCIAL AID							
Direct grant and stipend funds rather than loans	x		x			x	x
Funds for programs to meet the academic needs of present and potential students			x	x		x	
Funds for training health educators			x		x		
Availability of emergency funds		x				x	x
Construction funds for education facilities				x			
Equitable provisions for and assessment of financial aid based on individual needs		x			x		
Better information about existing sources of financial aid	x	x				x	
Transportation		x					x
III. ADDITIONAL TRAINING							
Better prepared and informed counseling	x	x		x	x	x	
Improved academic preparation in elementary and secondary schools	x	x	x			x	x
More academic reinforcement through tutorial and remedial programs in post-secondary allied health programs	x		x	x		x	
"Career awareness" and work study programs, i.e., short-term health camps	x	x			x		
IV. MINORITY PARTICIPATION							
More active, personal recruitment of minority students		x	x	x		x	
Peer pressure from non-minority students and faculty							x
Disillusionment							x

nursing professions as the glamorous health care providers. Allied health positions should then be put forth as integral parts of the health care team with a share of the glamour accompanying the health professions.

The student groups added the element of role models, and some asked that minority professionals be portrayed in informational attempts to reach young students and the public in general. Ample use of the mass media was recommended by both groups.

General concensus was also reached in suggesting exposure of allied health educational programs to students at the earliest possible time, some suggesting that this should be done as early as in the sixth grade. The object of this early exposure would be the preparation for required coursework.

2. Need and Ability to Obtain Financial Aid

Financial aid was the issue of greatest elaboration by both groups. Participants pointed to the lengthy process of application; the need to base qualification for aid on the student's, not the parents' income; lack of information about available funds; high cost of the application fees (especially when more than one application is made); need for assistance in completing the application; and finally, the need to increase the number of grants and stipends that do not have to be reimbursed.

The need for financial assistance was espoused by the majority of conference attendants from both groups. However, strongest emphasis was given to the difficulties in obtaining information about what sources are available and the procedure to acquire funds.

3. Need for Additional Training

This issue turned out to be very controversial between the two groups. Students apparently resent the process by which minority students are required to follow the so-called independent or remedial study programs while White students are not. It was explained that these programs are redundant and useless in terms of new knowledge gained and only serve to lengthen the total time required for completion of training for an allied health career.

If additional training must be taken prior to entering an allied health program, the preference would be to take science courses related to the subject of study. Summer work-study programs would be welcomed, where the student could get relevant experience as well as income to contribute towards school expenses.

Members of the faculty-administrator sessions took a very different position and a stern look at the educational level of incoming minority students. Most of them concurred in establishing the need for improved basic skills--meaning problem-solving, communication, mathematics and science preparation--in order to be able to pursue any postsecondary educational program with success. This preparation is inadequate among minority applicants, which makes faculty and administrators more inclined to continue the use of remedial and tutorial programs prior to admission or along with the regular curriculum.

Another problem of concern to this group was the measure of academic versus applied skills. Success in the various programs currently depends mostly on written tests, yet it was felt that this was not always the best criterion to apply for admission of the potentially best applicants to the programs.

4. Measures to Increase Minority Group Participation in Allied Health

A great deal of concensus was achieved by both groups regarding this issue. It was agreed that increased recruitment efforts of minorities by minorities could help to augment minority representation in the field of allied health.

Special mention was made of the successful approach experienced by special federally funded recruiting programs such as the Black Awareness Program in Alabama and the North Carolina Health Manpower Development Program, whose responsibilities are to get in contact with minority students and make them knowledgeable of the various alternatives to pursue within the health professions.

Some of the other schools in the Southeast have designated Black faculty members to share similar responsibiiities. However, as these tasks are very time consuming, success has not been as significant as with the full-time career awareness programs.

It was also suggested that films be developed with minority figures in allied health roles. These films should be shown in schools with large minority enrollment so that students can identify themselves with the characters and possibly start to see themselves in similar roles. Similar spot-ads could also be developed to be shown on television programs at times when young students are likely to be among the viewers.

XII. RECOMMENDATIONS

A. Study Limitations

RTI, as a research organization, realizes that the total number of conference participants was not sufficient to make generalizations in terms of the current status of barriers to minorities in the Southeast or to make substantive recommendations on how best to deal with the problems that were identified. Therefore, this section presents essentially a commentary on barriers and problems identified by conference participants as well as recommendations based on these problems.

As has been mentioned before, the student groups and the faculty-administrator groups were representative of a range of backgrounds that was not fully representative of the Southeastern region, individual States, academic institutions having allied health programs, or the racial and ethnic groups of concern in this study.

It would have been desirable to have a stratified, statistically valid sample of individuals, schools, and rural and urban areas; but time constraints necessarily restricted the focus of the study to an informal identification of principal problem areas.

However, the goal of this study was to make a qualitative not quantitative identification of barriers to minorities in allied health professions education. This was accomplished through discussions with small groups of individuals which although not selected by statistically valid means, do represent the views of persons involved in the daily dealings of allied health careers training.

A significant number of participants sampled expressed concern over the utility of a study and report on this subject matter. It was their feeling that this report, as many others before, would not produce much of a reaction and that "it would be shelved and forgotten."

The student and faculty conferences identified a number of problems which were perceived by the participants as limiting minority enrollment in and completion of allied health training programs. These

pp 147-148 missing

are listed in Tables 24 and 25. Each of these problems relates to a specific component of the larger allied health training system such as secondary school counseling, recruitment by training programs, financial costs of training, peer relations, and student-faculty relations.

It is important to realize that in the educational system changes in any component may effect the operation of any other component as well as the total outcome. The problem, then, is to decide on the most advantageous point at which to alter the system and the most strategic method of alteration. The criteria for choosing alternative methods vary, but in a system of limited resources and many potential interactions, three major considerations are evident:

1) To choose those methods which optimize the desired outcome, i.e., result in greater participation of minorities in allied health professions.
2) To avoid methods which have a negative impact on any of the components or on the desired outcome; i.e., which result in fewer minorities represented in the allied health professions.
3) To choose methods which produce the greatest positive results for the available resources committed.

B. Major Problems Identified

1. Information

It was believed by conference participants that public information programs should be designed to raise allied health professions to a level of public recognition equal to that of medicine and nursing. It was their belief that this will aid in raising the expectations of minority elementary and secondary school students and their parents as well as to create a desire to enter the allied health field.

2. Counseling

Conference participants mentioned that an improvement in secondary school and junior college counseling is necessary to direct more students toward the allied health professions. Counselor training should be improved to increase the quality of counseling in general and to make counselors aware of allied health

professions as important options for their students. Counselors should be freed from teaching responsibilities to allow more time for counselor/student contact. It is expected by conference participants that these measures will result in the direction of more minority students toward allied health careers and toward taking the high school mathematics and science courses necessary for academic qualifications and toward appropriate sources of financial aid.

3. Recruitment

It was stated by conference participants that the expansion of outreach recruitment programs into elementary schools, secondary schools, and junior colleges would result in more interest in allied health careers. The use in these programs of minority workers currently employed in the allied health professions would serve to provide needed role models for students. Mention was made of a belief that in the Southeast, all health professions have been typically viewed by minority students as "White professions" and consequently ruled out as a potential career. Exposure to minority workers in the professions may overcome this problem. As a corollary to outreach, participants felt that expansion of programs to bring student groups into health facilities will expose them to new knowledge about allied health professions and minority role models in their work setting.

4. Finances

It was believed by conference participants that the development of more and greater financial aid programs would assist students in overcoming financial barriers. In addition, it was believed desireable to reduce the student's financial obligation overall; therefore, it was hoped that new programs would involve outright grants rather than loans to be repaid. Students felt that they are not helped to become aware of current sources of financial aid and viewed improvements in counseling in their allied health programs, as well as counseling prior to entry, as necessary to overcome this gap in their knowledge.

5. Motivation

It was believed by conference participants that steps are necessary within training programs to overcome a number of biases which make it difficult for students to complete their training. These efforts should be generated by the Federal government and the training programs to:

- Improve student/faculty relationships.
- Reduce racial pressure on minority students from other students and faculty.
- Provide a sufficient number of internships each year to accommodate all individuals who reach the internship entry point in training programs which require them. Currently, this does not seem to be the case as a number of students in medical technology programs, for instance, described great difficulties in finding positions for their fourth year internship.

Finally, conference participants stated that English and mathematics placement and aptitude tests should be standardized or redeveloped to remove built-in biases against minority students. It was desired that procedures for remedial courses should be developed which are not biased against minority students who feel they often are forced to take or remain in remedial courses when nonminority students are not.

C. Recommendations

Conference participants raised a number of issues which remain unresolved (Tables 24 and 25). These issues are largely prompted by the fact that problems and suggestions were identified from a small, arbitrarily selected group of students and faculty. The ones most frequently voiced were:

1) To what extent are the options, perceptions and suggestions of the participants held by the universe of allied health students and faculty?

2) To what extent are these perceptions valid descriptions of the way in which the allied health training system works?

3) What are the potential systemic results of any programs designed to achieve the ultimate goal? To what extent will the goal be achieved (greater minority representation)? To what extent will counterproductive reactions occur in other parts of the system when one part is altered to supposedly achieve the ultimate goal?

4) To what extent do the problems identified for minority students apply to White students also?

5) To what extent will potential solutions increase White participation equally or more than for minorities?

6) To what extent are various proposals economically feasible, optimal, or beneficial? To what extent is one more cost effective than another?

7) To what extent will shifting manpower needs and professional roles impact on minority recruitment and employment.

Resolution of these issues was beyond the scope of the present work; however, they are of sufficient importance to desire further attention.

Some of the major questions which should be viewed from the earlier noted considerations are:

1) The potential effect of better trained and more accessible high school and general college counselors.

2) The potential effect of increased recruiting efforts.

3) The potential effect of increasing minority enrollment without concommitantly increasing minority completion and job opportunities.

4) The potential effect of increasing grant support rather than loans.

5) The potential effect of categorical financial support (e.g., for tuition only; for transportation only) rahter than broader block grant type support.

6) The potential effect of more general information about allied health professions to the public, to elementary and secondary school students, to parents, and to social and religious organizations.

All of these questions should be considered if they are to be useful as a basis for developing programs to incrase minority participation in the allied health professions. Full scale implementation of programs to accomplish these goals without suitable research runs the risk of expending funds in a less than optimal manner, creating new unforeseen problems, and/or producing effects counter to the ultimate goal by actually reducing minority representation or accomplishing little progress in this area.

D. Future Studies

Since this was a study of perceptions, each participant viewed the operation of each component as it impacted on him, personally. Suggestions for solutions tended to be broad and to view the problem component as an individual entity rather than as a part of a total system. In fact, it is apparent that the system and all its components are not well documented or understood. For example, students and faculty both believed that students are not made aware of allied health professions in secondary schools and are not encouraged to take the appropriate preparatory courses. The perceived solution to this problem is improved training of secondary school counselors and more frequent counseling. This is a very broad statement which might result in a variety of different program activities. Furthermore, the suggestion is based on the knowledge that one problem encountered by students is poor counseling. It is not made in the knowledge that changes implemented in secondary school counseling programs will result in achievement of the goal: more minority allied health professionals. In fact, it might result in producing greater interest among White students and thereby reduce the percentage representation of minorities.

Before any activity designed to achieve greater minority participation is widely implemented, its implications from the three considerations noted above need to be assessed. Future research should, therefore, focus

on establishing basic information about the allied health training system and assessing proposed system alterations from the perspective of, at least, the three aforementioned considerations. Basic informational needs, and issues around which potential system alterations (programs) may be developed are discussed below.

1. Basic Information

Because few practicing graduates participated in the conferences, the views presented related to enrollment and completion problems. The job market was seldom a major issue of discussion. However, it is an extremely important consideration if an attempt is to be made to increase minority participation in allied health professions. Specific program goals must be established on the basis of market demand.

For example, if it is expected that the job market potential will increase over the next decade, then it is reasonable to consider as goals such measures as increasing training positions and filling them with minority students. Programs could be designed to have minimum impact on White students. However, if it is expected that the job market potential will decrease or remain stable, programs designed to increase minority enrollment must consider the concomittant need for a decrease in White enrollment.

From another perspective, it is apparent that the roles of allied health professionals are changing in response to health manpower demands in general. The most noticeable changes has been the expansion of the nurse's role into that of the nurse parctitioner. In addition, a trend is now beginning in dentistry where the expanded duty of the dental asssistant's role may effect (probably decrease) the demand for dental hygenists.

The implication in both of these situations is that if minority supply is increased without serious regard for the trends in future employment demand, the result of these new programs may be to create a large pool of highly trained, unemployed and disillusioned professionals.

2. Cost of Training

The cost of training allied health personnel can be viewed from three perspectives: the cost to the student, the cost to the institution, and the cost to society.

One of the principal problems identified by conference participants was the difficulty students find in financing their education. Students are subject to direct costs for tuition, books, transportation, rent, food, clothing, uniforms, equipment, etc. In addition, they suffer the costs of lost opportunities to earn money were they free to seek employment. Various types of loan and grant programs may be developed (or existing ones altered) to assist minority students. Key variables are amounts available, income requirements, and allowable uses. Decisions on these and other variables should be based on knowledge about the costs incurred for each of these components and the effects of money availability on the ultimate goal. For example, if new tuition stipends allow students to enter a program they could otherwise not afford but the students drop out of the program after 1 year because they are unable to pay rent, or because opportunity costs become overwhelming, or because peer pressure from White students continues to be excessive; then there has been a considerable waste of resources in terms of the stipend funds expended, the student's loss opportunities, and the institution's commitment of teaching and material resources. All these resources will have been committed with no resulting addition of minority personnel to the allied health labor force. There is also a further opportunity cost to society which is denied needed manpower when the training position could have been filled by an individual more likely to finish the program (e.g., a White or minority student in a better financial position).

Knowledge about the costs associated with each of the training components will serve to identify points of likely program intervention and act as baseline information against which to evaluate program effects.

5. Recommendations

It was learned during the recent months that a number of agencies and councils exist who have initiated health needs studies on a smaller scale and at regional levels. Reference is made here to the Cuban National Planning Council and the Indian Health Council as examples. Organizations such as these have related problems and needs; such as general information, sources of financial assistance, and specific research problems, that could be coordinated at state levels (perhaps within the new State Health Planning and Development agencies). This should keep all information related to the "state of the art" in allied health in a central location for each State.

Specifically, demonstration projects such as the one reported by Fielstra [Ref. 11] at UCLA should be studied to determine applicability to other states in the country with a focus on minority groups. In addition, it is worthwhile to mention here the apparent success of recruiting projects of minority students by minority awareness groups. It should be interesting to know their rate of success in relation to the cost of funding such programs.

One more point that needs to be mentioned is the special focus that ought to be directed towards Spanish American and American Indian groups. Participants in the Southeastern region were too scarce from these two groups to determine any conclusion or questions specific to the groups. However, they should definitely be included in all future endeavors since the scare information obtained indicated different needs for these two groups than for the Black groups, i.e., English language assistance, cultural adjustments.

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Appendix A

Participants Response Rate

Whenever possible, potential participants were invited at a rate of one expected acceptance for every three invitations. A 30 percent response was expected because the conferences were to be held during final exam period. A total of 160 participants attending the sessions in the seven sites. Table A-1 offers a detailed response rate from participants by State. As can be seen, a 30 percent response rate was obtained in most sites with the exception of Louisiana where the procedure had to be repeated because of poor attendance in the first student session.

Table A-1

PARTICIPANTS RESPONSE RATE

	Invitations Mailed No.	Response Received No.	Response Received %	Attending Participants No.	Attending Participants % of Mailed Invitations
ALABAMA					
Students	28	10	36	7	25
Faculty**	38	23	61	15	39
Total	66	33	50	22	33
FLORIDA					
Students	20	13	65	10	50
Faculty	20	10	50	16	80
Total	40	23	58	26	65
GEORGIA					
Students	32	18	56	10	31
Faculty	16	13	81	11	69
Total	48	31	65	21	44
LOUISIANA					
Students	23	5	22	12*	52
Faculty	25	6	24	10	40
Total	48	11	23	22	46
MISSISSIPPI					
Students	38	19	50	10	26
Faculty	39	14	36	8	21
Total	77	33	43	18	23
SOUTH CAROLINA					
Students	17	10	59	10	59
Faculty	19	9	47	14	74
Total	36	19	53	24	67
NORTH CAROLINA					
Students	45	14	31	11	24
Faculty	69	19	28	16	23
Total	114	33	29	27	23
TOTAL	429	172	40	160	37

* Session held twice. Only three participants attended the first session.

** All faculty figures include first contact with the Deans.

Appendix B

Allied Health Personnel

A. Allied Dental Services

The dental hygienist provides dental services, dental health education, and nutritional counseling to patients. Primary responsibilities are oral hygiene services: cleaning and polishing teeth, providing diagnostic aids for the dentist, instructing in dental health education, and applying topical agents such as fluorides to the teeth. The hygienist works under the supervision of a licensed dentist. This is the only dental auxiliary occupation requiring a license.

It is the responsibility of the dental laboratory technician to make and repair such dental restorations as dentures, crowns, bridges, and inlays, under the direction, or according to the prescription, of a licensed dentist. Skill in the use of many instruments and techniques, together with help in designing and developing new equipment and methods, enables the technician to complement the skills of the dentist.

Dentists often maintain one or more dental assistants to greet patients, make them comfortable, and prepare them for examination, treatment, or surgery. The assistant also sees to it that instruments are sterilized and ready for use and assists the dentist while the patient is in the dental chair. In some offices, the assistant prepares solutions, mixes fillings and cement, and helps the dentist in taking and processing X-ray films. Additional duties entail answering the telephone, making appointments, ordering supplies, handling business transactions, keeping patient records, sending out monthly statements, and maintaining tax records.

B. Dietetics

The dietitian is educated to provide nutritional care to individuals and groups and to apply the principles of management to planning and directing food service programs. There are four major areas of specialization in dietetics, each concerned with different functions; these are food administration, nutrition care, education, and research.

As a member of the dietetic team working under the supervision of a dietitian, the dietetic technician is involved directly in food administration and nutrition care services. Duties in food administration may include quality food production, developing standard recipes, managing a cafeteria and training of personnel. The duties in nutrition care may include taking diet histories of patients, calculating modified diets, teaching patients normal nutrition, and visiting patients to evaluate the food.

C. Inhalation Therapy

The inhalation therapy technician sets up and operates various types of therapeutic gas and mist inhalation equipment, such as respirators, tents, masks, catheters, cannulas, and incubators. From the physician's prescription specifying the type of therapy, medication, and the dosage, inhalation therapists administer doses of medicinal gases and aerosolized drugs to hospitalized patients.

D. Medical Records

It is the responsibility of the medical record administrator to see to it that for each patient in the hospital a complete, continuous, and accurate record is kept from the time of admission to the time of discharge. This includes the maintenance of all of the records in an efficient medical records library following a recognized classification system in coding diseases, operations, and other factors; indexing information from the records; setting up catalogs; and controlling the traffic in case records. Medical and statistical reports are also compiled by the administrator on request.

The medical record technician assists the medical record librarian in the technical work of maintaining medical records, reports, disease indexes, and statistics. A comparatively new job classification, medical record technicians are employed in hospitals, clinics, and other medical care institutions.

E. Medical Technology

Medical technologists perform a variety of highly technical laboratory tests in specimens of blood, urine, and tissues. Also, technologists are trained to operate special apparatus and a wide array of precision

instruments: electronic counters, automatic analyzers, centrifuges, microscopes, autoclaves, spectrophotometers, colorimeters, microtomes, and computers. Some medical technologists perform all of the varied tests while others specialize in only one specific field, such as a cytotechnologist, histologic technician, or electroencephalograph technologist.

Until recently, most of the actual laboratory testing was done by the medical technologist. However, the technologists have, for the most part, moved on to supervising and teaching. They still do some of the most difficult and complicated testing; otherwise, all but the routine testing is now done by medical laboratory technicians, under the supervision of the medical technologist. The routine testing is done by certified laboratory assistants.

F. Occupational Therapy

Occupational therapy is a form of treatment employed in the rehabilitation of people with physical or mental emotional disability. It engages the patient in selected activities, pertinent to his condition, to help him correct or overcome his particular disability. When a patient is referred from a physician, the therapist makes an evaluation to determine the current level of functioning and then decides which form of activity would be the most beneficial.

Under supervision of the occupational therapist, the assistant instructs patients in activities, prepares materials, and supervises patient programs. The assistant may also aid the therapist in making special orthopedic devices.

G. Opthamology and Optometry

The opthalmic assistant performs a wide range of services in the eye-care field, ranging from office management to lens assembly and visual testing. Duties of the optometric technician are similar but include lens fabrication and modification as well. Technical assistance from the optometric technologist combines many of the same tasks along with equipment research, design, and development.

H. Physical Therapy

The physical therapist, under the direction of a physician, works to rehabilitate people with injuries or disease of the muscles, joints, nerves or bones. The methods of physical therapy include exercise and massage, and various applications of heat, water, light, and electricity. Physical therapy services also involve instructing patients and their families in how to carry on prescribed treatment at home. Specific instruction in the techniques of muscle reeducation, or in the care and use of braces or prosthetic appliances may be required.

I. Radiologic Technology

Radiologic technologists, or X-ray technicians, are trained to perform the technical routines involved in photographing bones and inner organs of the body for the detection of abnormalities. The technologist can also use the penetrating radiation to halt certain diseases. Within the field, three areas of specialization are now recognized: the diagnostic X-ray technologist, the nuclear medical technologist, and the radiation therapy technologist.

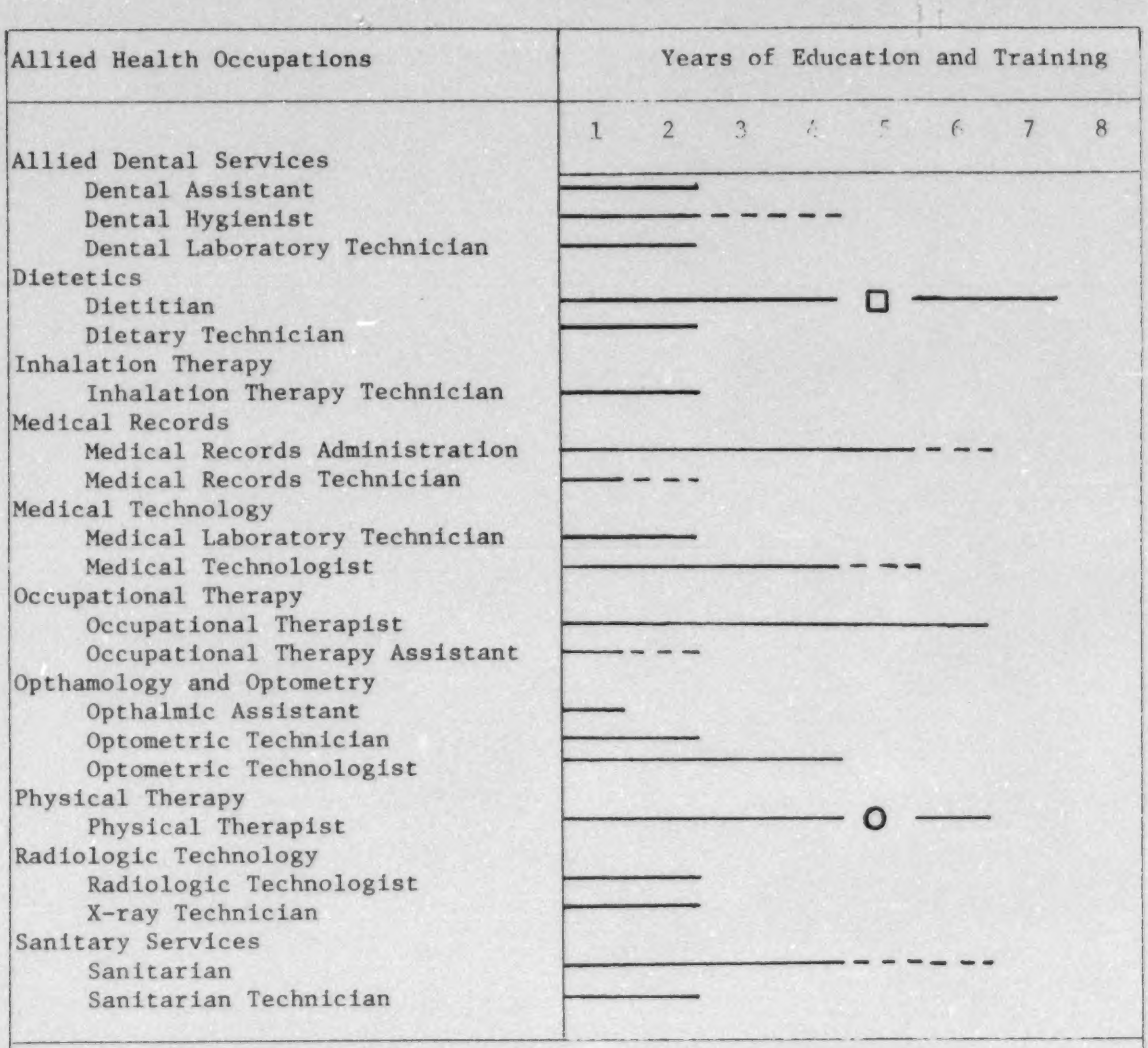
J. Sanitarian

Interpretation and enforcement of city, State, Federal, or other laws regarding sanitary standards in food, water supply, garbage disposal, sewage disposal, and housing maintenance is the basic duty of the sanitarian. Sanitarians having supervisory duties analyze reports of inspections and investigations made by other environmental health specialists and advise on difficult or unusual sanitation problems.

A sanitarian technician, trained in the environmental sciences, provides assistance to the sanitarian. In some cases, technicians with work experience can advance to professional sanitarian positions.

Table B-1

YEARS OF EDUCATION AND TRAINING BEYOND HIGH SCHOOL
FOR ALLIED HEALTH OCCUPATIONS



——— Requires special training in a college, hospital, special or professional school.

○ Though the line shows the minimum period to qualify, more preprofessional years in college lengthen the total training time.

□ Junior professional level jobs are available after college.

——— Requires special training of varying lengths of time.

U.S. Department of Health, Education, and Welfare. Health Careers Guidebook, U.S. Government Printing Office, 1972.